

FCC Radio Test Report

FCC ID : 2ADKMWS01
Equipment : WISCHA
Brand Name : Zeroplus Technology Co., Ltd.
Model Name : WIS-FM-001, WIS-EM-001, WIS-BM-001,
WIS-AM-001, WIS-SM-003, WIS-SM-004
Applicant : Zeroplus Technology Corporation
3F., No.121, Jian 8th Rd., Chung Ho District,
New Taipei City 235, Taiwan
Manufacturer : Zeroplus Technology Corporation
3F., No.121, Jian 8th Rd., Chung Ho District,
New Taipei City 235, Taiwan
Standard : 47 CFR FCC Part 15.247

The product was received on Mar. 25, 2022, and testing was started from May 30, 2022 and completed on Jun. 17, 2022. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.



Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)



Table of Contents

HISTORY OF THIS TEST REPORT3

SUMMARY OF TEST RESULT4

1 GENERAL DESCRIPTION5

1.1 Information.....5

1.2 Testing Applied Standards7

1.3 Testing Location Information7

1.4 Measurement Uncertainty7

2 TEST CONFIGURATION OF EUT.....8

2.1 Test Channel Mode8

2.2 The Worst Case Measurement Configuration.....9

2.3 Accessories10

2.4 Support Equipment.....11

2.5 Test Setup Diagram12

3 TRANSMITTER TEST RESULT14

3.1 AC Power-line Conducted Emissions14

3.2 DTS Bandwidth.....16

3.3 Maximum Conducted Output Power17

3.4 Power Spectral Density19

3.5 Emissions in Non-restricted Frequency Bands20

3.6 Emissions in Restricted Frequency Bands.....21

4 TEST EQUIPMENT AND CALIBRATION DATA.....25

APPENDIX A. TEST RESULTS OF AC POWER-LINE CONDUCTED EMISSIONS

APPENDIX B. TEST RESULTS OF DTS BANDWIDTH

APPENDIX C. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER

APPENDIX D. TEST RESULTS OF POWER SPECTRAL DENSITY

APPENDIX E. TEST RESULTS OF EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS

APPENDIX F. TEST RESULTS OF EMISSIONS IN RESTRICTED FREQUENCY BANDS

APPENDIX G. TEST PHOTOS

PHOTOGRAPHS OF EUT V01



Summary of Test Result

Report Clause	Ref.Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and explanations:
None

Reviewed by: Ben Tseng
Report Producer: Ann Hou



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number
2400-2483.5	LE	2402-2480	0-39 [40]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1.0	1TX

Note:

- ♦ Bluetooth LE uses a GFSK (1Mbps) modulation.
- ♦ BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	Zeroplus	ZP-Integrate	IFA	N/A	-13.42

Note 1: The EUT has one antenna.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Ant. 1 (port 1) could transmit/receive.

1.1.3 EUT Information

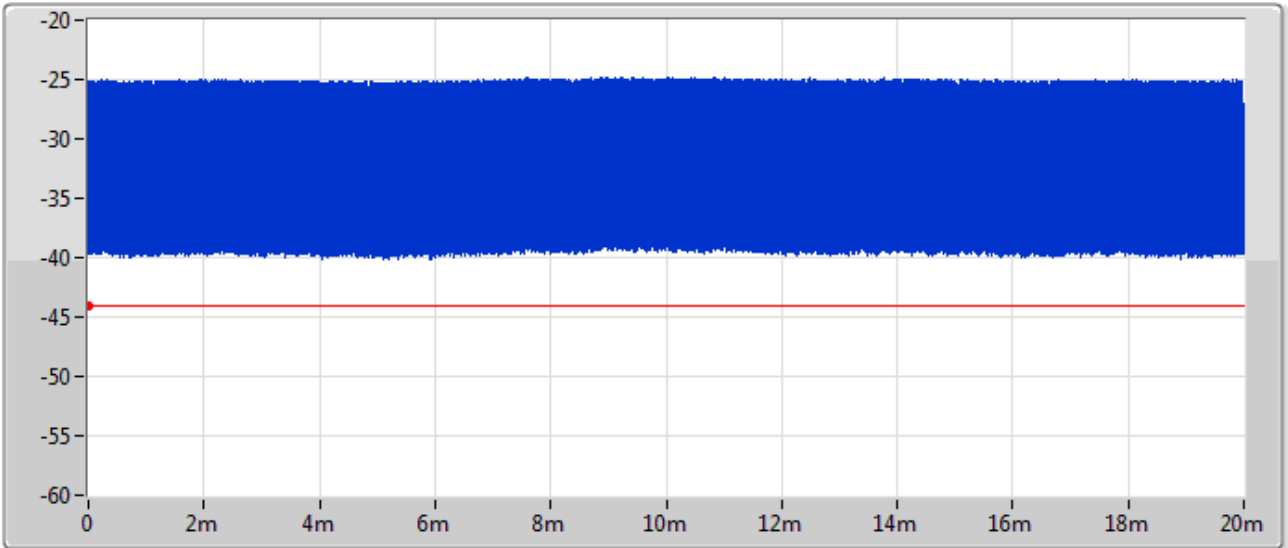
Operational Condition	
EUT Power Type	From AC Adapter / Host system / Test fixture
EUT Function	<input checked="" type="checkbox"/> Point-to-multipoint <input type="checkbox"/> Point-to-point
Type of EUT	
<input checked="" type="checkbox"/>	Stand-alone
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device)
	Combined Equipment - Brand Name / Model No.: ...
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems)
	Host System - Brand Name / Model No.: ...
<input type="checkbox"/>	Other:



1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-LE(1Mbps)	1	0	n/a (DC>=0.98)	n/a (DC>=0.98)

DC;BT-LE;BWch:1.0MHz



Ch Freq	RBW	VBW	Sweep Time	Total Sample	Sample Time	TX Time	DC
2.481GHz	1MHz	3MHz	20ms	32001	625ns	20ms	1

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

1.1.5 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

Model Name	Skincare testing probe	Parts of use	Color	Description
WIS-FM-001	with	Face	Rose Gold	Provide different modes and current strengths for different parts of use.
WIS-EM-001	with	Eye	Rose Gold	
WIS-BM-001	with	Chest	Silver	
WIS-AM-001	with	Abdomen	Silver	
WIS-SM-003	without	Body	Matte Black	
WIS-SM-004	without	Body	Matte Red	

From the above models, model: WIS-FM-001, WIS-SM-003 was selected as representative model for the test and its data was recorded in this report.

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF:

- ♦ KDB 558074 D01 v05r02
- ♦ KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
<input checked="" type="checkbox"/>	Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)		
		TEL: 886-3-327-3456	FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Ivan	22.6~23.5°C / 58~61%	17/Jun/2022
RF Conducted	TH06-HY	Edward	24.2~26.9°C / 50~61%	02/Jun/2022
<input checked="" type="checkbox"/>	Wen 33rd.St. (TAF: 3785)	ADD: No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)		
		TEL: 886-3-318-0787	FAX: 886-3-318-0287	
Test site Designation No. TW0008 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH09-HY	Daniel	23.4~23.8°C / 52~55%	30/May/2022~31/May/2022

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Test Items	Uncertainty	Remark
AC Power-line Conducted Emissions	4.53 dB	Confidence levels of 95%
Bandwidth	3 MHz	Confidence levels of 95%
Maximum Conducted Output Power	2 dB	Confidence levels of 95%
Power Spectral Density	2 dB	Confidence levels of 95%
Emissions in Non-restricted Frequency Bands	0.14 dB	Confidence levels of 95%
Emissions in Restricted Frequency Bands	4.8 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode




Test Software Version	MacroGiga Test 2.5
-----------------------	--------------------

Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	-6
2440MHz	-3
2480MHz	-6

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	1. Test fixture mode; TX
	2. Adapter mode; Charging (WIS-FM-001)
	3. USB mode; Charging (WIS-FM-001)
	4. Adapter mode; Charging (WIS-SM-003)
	5. USB mode; Charging (WIS-SM-003)

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode < 1GHz	1. Test fixture mode (CTX)		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT		V	

2.3 Accessories

Accessories			
Charging Cable	Brand Name	WISCHA	
	Model Name	Magnetic charging cable	
	Power Cord	0.2 meter, non-shielded cable, w/o ferrite core	
Face Sheet Mask	Brand Name	WISCHA	
	Model Name	Super-smart microcurrents Deep Hydration Face Sheet Mask, Super-smart microcurrents Deep Brightening Face Sheet Mask, Super-smart microcurrents Deep Anti-Aging Face Sheet Mask	
Eye Sheet Mask	Brand Name	WISCHA	
	Model Name	Super-smart microcurrents Deep Intensive Eye Sheet Mask	
Chest Sheet Mask	Brand Name	WISCHA	
	Model Name	Super-smart microcurrents Deep Firming Chest Sheet Mask	
Belly Sheet Mask	Brand Name	WISCHA	
	Model Name	Super-smart microcurrents Deep Anti-Aging Belly Sheet Mask	
Plumping Bra	Brand Name	WISCHA	
	Model Name	Smart microcurrent plumping bra	
Waist-Shaping Belt	Brand Name	WISCHA	
	Model Name	Smart microcurrent waist-shaping belt	
Buttocks-Firming Pants	Brand Name	WISCHA	
	Model Name	Smart microcurrent buttocks-firming pants	
Abdomen-Firming Pants	Brand Name	WISCHA	
	Model Name	Smart microcurrent abdomen-firming pants	
Leg-Slimming Pants	Brand Name	WISCHA	
	Model Name	Smart microcurrent leg-slimming pants	
Battery	Brand Name	Zeroplus Technology Co., Ltd.	
	Model Name	PL-351423	
	Manufacturer	Guangdong Weineng New Energy Technology Co. Ltd	
	Power Rating	3.7Vdc, 90mAh	Type

Reminder: Regarding to more detail and other information, please refer to user manual.

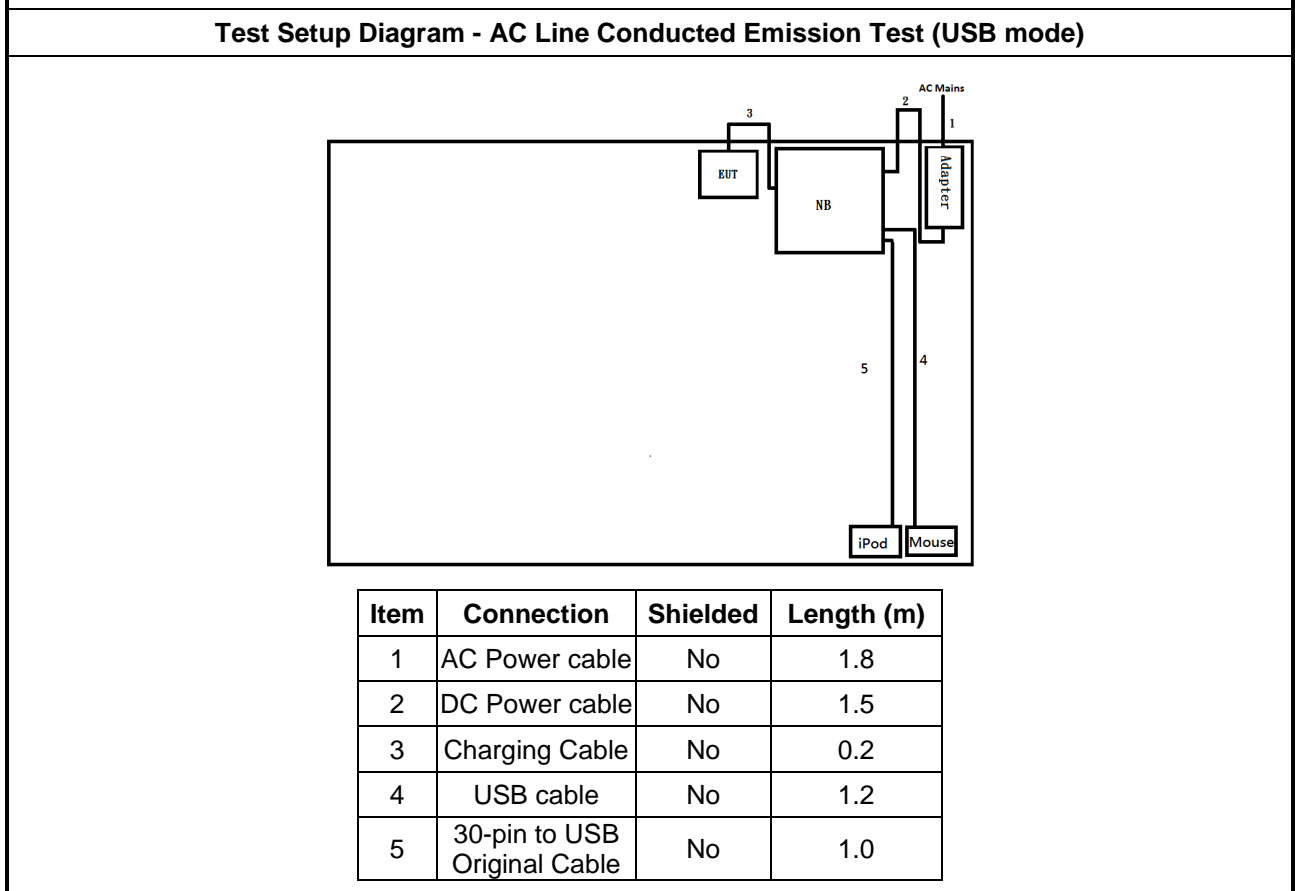
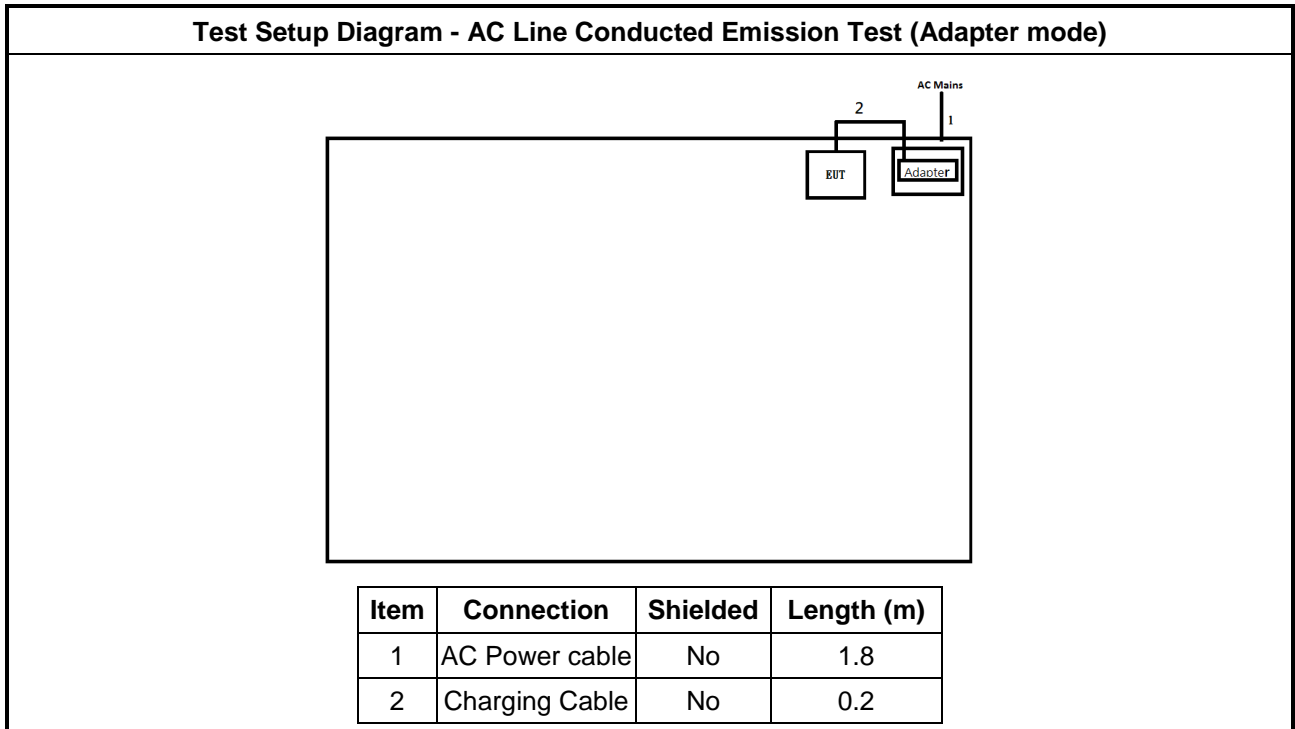
2.4 Support Equipment

Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	HP	5220M	-	-
2	Adapter For NB	HP	PPP012L-E	-	-
3	30-pin to USB Original Cable	Apple	MA591GC	-	-
4	Mouse(USB)	Lenovo	MOGOUO	-	-
5	iPod	APPLE	A1199	-	-
6	Test fixture	zeroplus	zeroplus	-	Provided by Customer
7	AC adapter	TRANSCEND	PSAI05R-050Q	-	-
8	USB cable	Hong-Shaing	UAMAF-018K	-	-

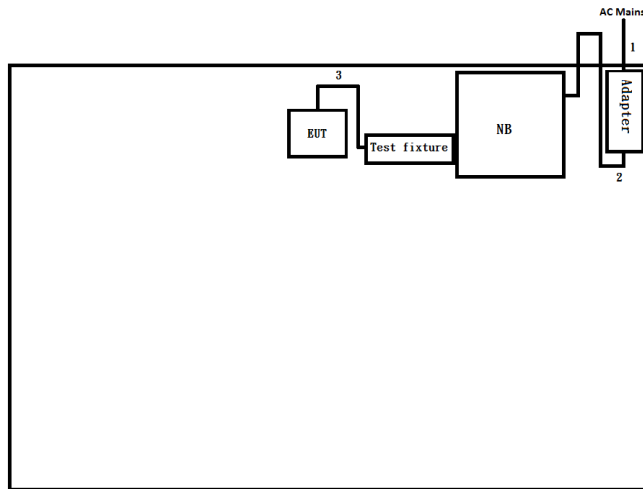
Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	HP	HSTNN-I42C	-	-
2	Adapter for NB	HP	HSTNN-LA40	-	-

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Test fixture	zeroplus	zeroplus	-	Provided by Customer

2.5 Test Setup Diagram

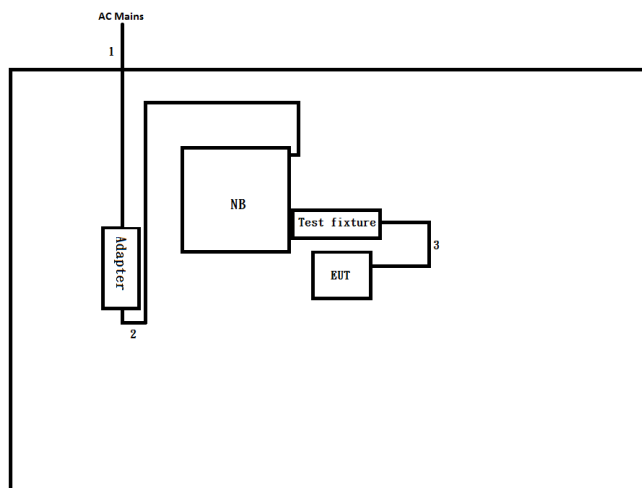


Test Setup Diagram - AC Line Conducted Emission Test (Test fixture mode)



Item	Connection	Shielded	Length (m)
1	AC Power cable	No	1.8
2	DC Power cable	No	1.5
3	Test fixture cable	No	0.11

Test Setup Diagram - Radiated Test (Test fixture mode)



Item	Connection	Shielded	Length (m)
1	AC Power cable	No	1.8
2	DC Power cable	No	1.5
3	Test fixture cable	No	0.11

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

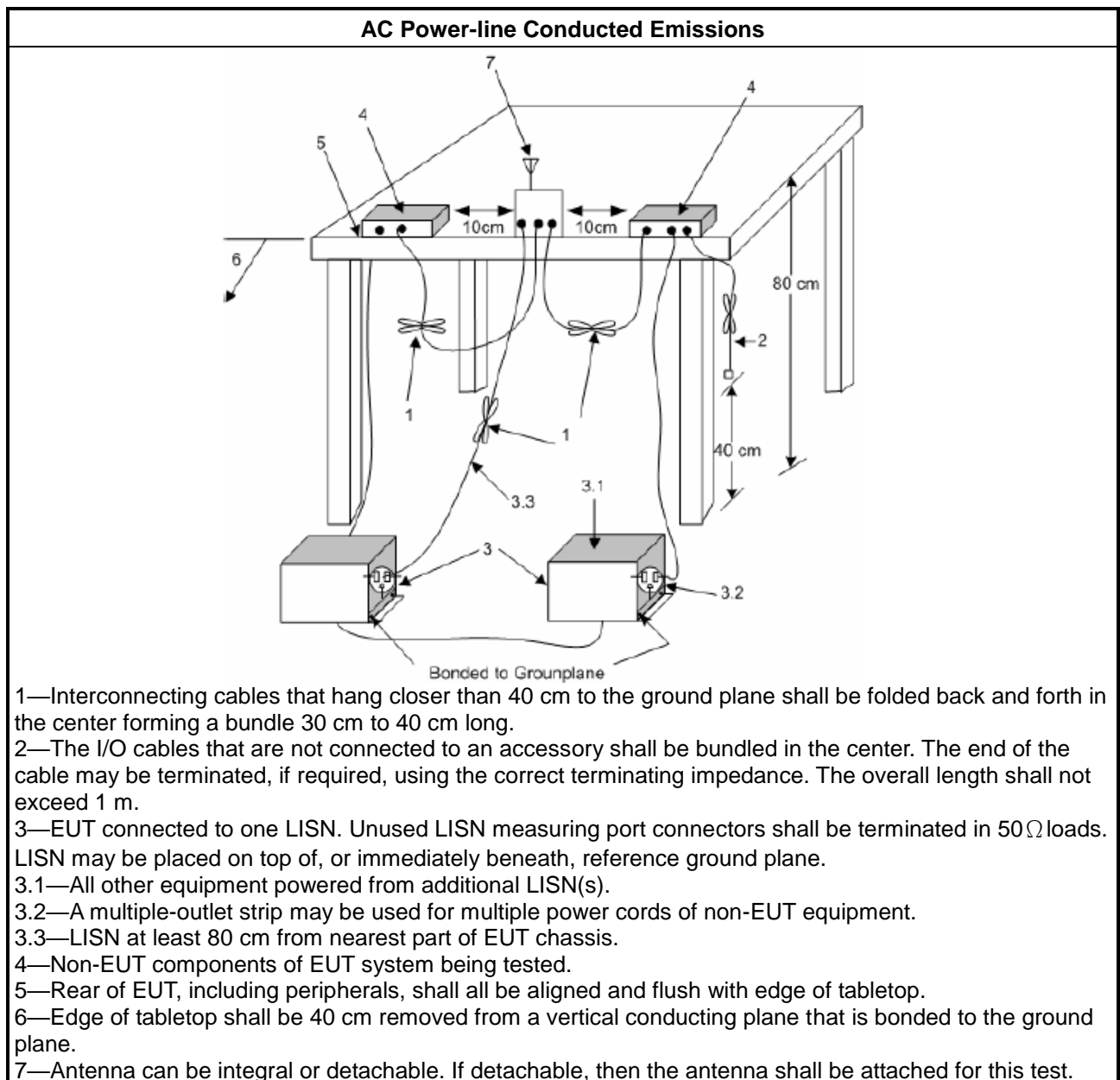
Test Method
<ul style="list-style-type: none"> Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + LISN(LISN Factor) + CL(Cable Loss) + AT(Attenuator).

3.1.5 Test Setup



3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit	
Systems using digital modulation techniques:	
▪	6 dB bandwidth \geq 500 kHz.

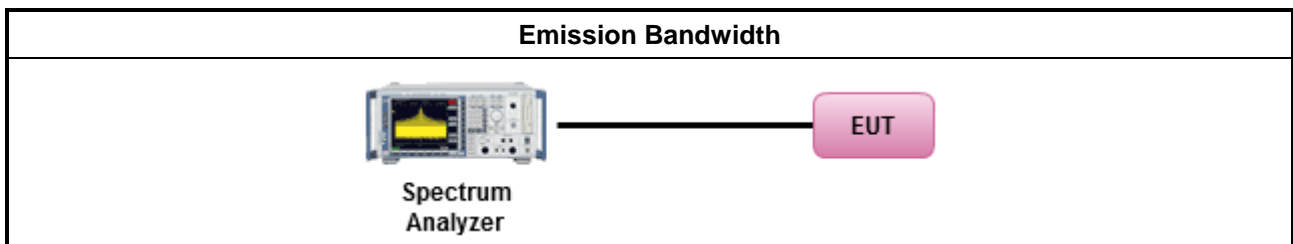
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method	
▪	For the emission bandwidth shall be measured using one of the options below:
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.
<input type="checkbox"/>	Refer as RSS-Gen, clause 6.7 for occupied bandwidth testing.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
	<ul style="list-style-type: none"> ▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
	<ul style="list-style-type: none"> ▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> ▪ Smart antenna system (SAS):
	<ul style="list-style-type: none"> - Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm
e.i.r.p. Power Limit:	
	<ul style="list-style-type: none"> ▪ 2400-2483.5 MHz Band
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)
	<ul style="list-style-type: none"> ▪ Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm
	<ul style="list-style-type: none"> ▪ Smart antenna system (SAS)
	<ul style="list-style-type: none"> - Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	<ul style="list-style-type: none"> - Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	<ul style="list-style-type: none"> - Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ dBm
<p>P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.</p>	

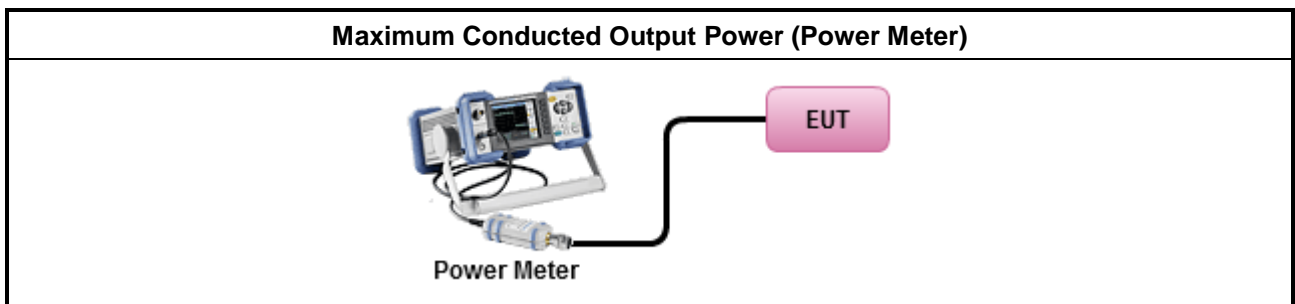
3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> ▪ Maximum Peak Conducted Output Power 	
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
<ul style="list-style-type: none"> ▪ Maximum Average Conducted Output Power 	
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
<ul style="list-style-type: none"> ▪ For conducted measurement. 	
<ul style="list-style-type: none"> ▪ If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. 	
<ul style="list-style-type: none"> ▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$ 	

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
<ul style="list-style-type: none"> Power Spectral Density (PSD) ≤ 8 dBm/3kHz

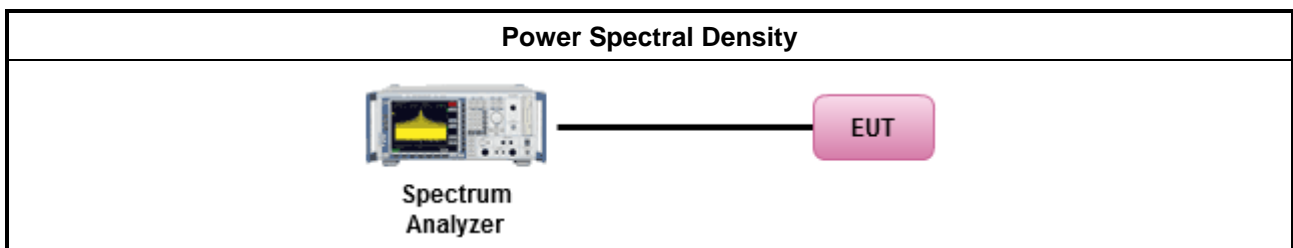
3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method
<ul style="list-style-type: none"> Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
<input checked="" type="checkbox"/> Refer as KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Max. PSD.
<ul style="list-style-type: none"> For conducted measurement. <ul style="list-style-type: none"> If The EUT supports multiple transmit chains using options given below: <ul style="list-style-type: none"> Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	Limit (dB)
Peak output power procedure	20
Average output power procedure	30

Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak level.

Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average level.

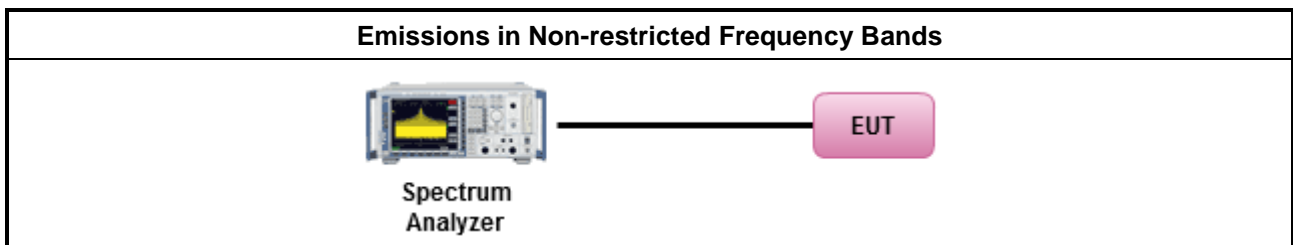
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method
<ul style="list-style-type: none"> Refer as KDB 558074, clause 8.5 (11.11 of ANSI C63.10) for non-restricted frequency bands.

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB / decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

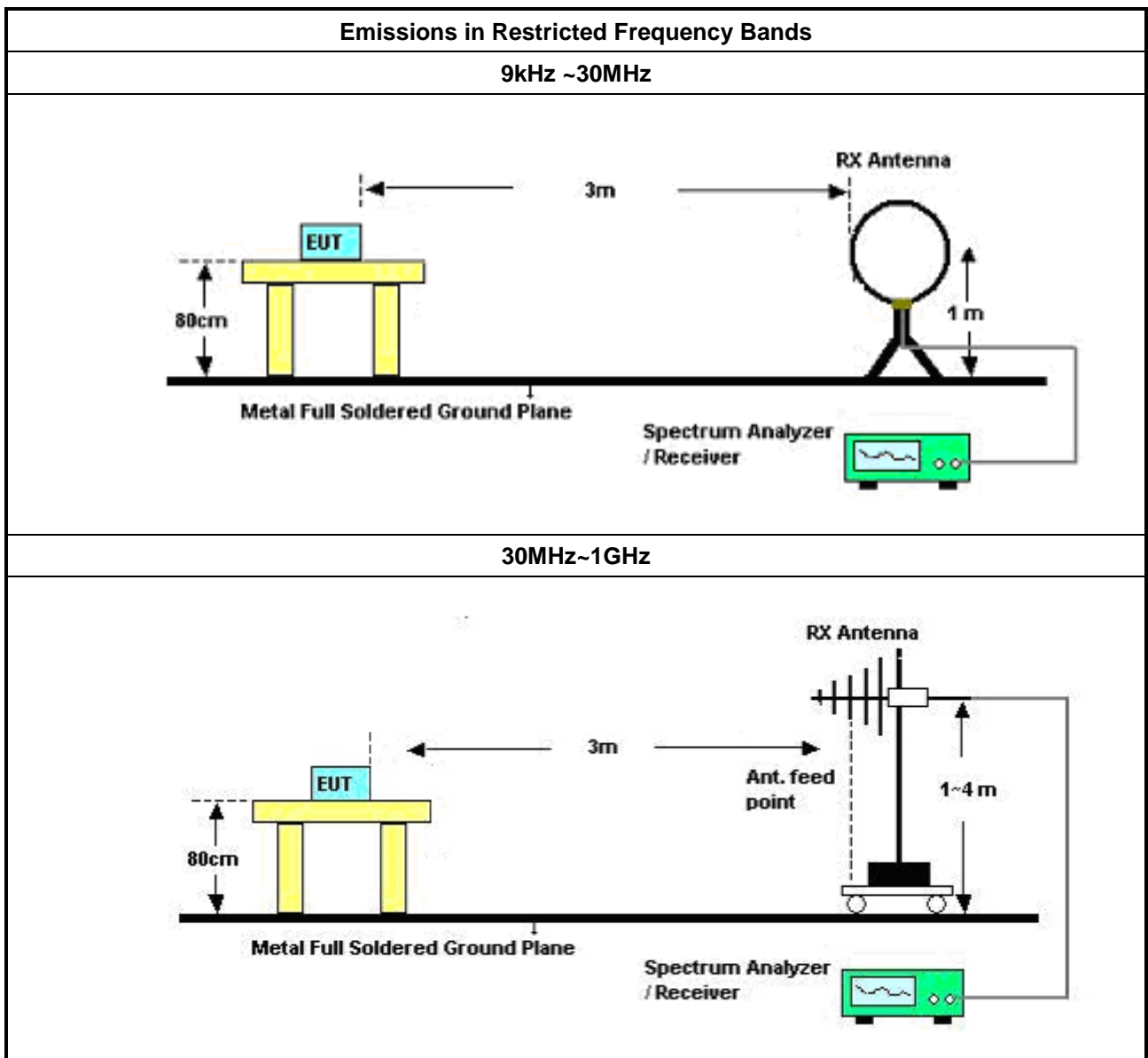
Test Method	
	<ul style="list-style-type: none"> ▪ The average emission levels shall be measured in [duty cycle \geq 98 or duty factor].
	<ul style="list-style-type: none"> ▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
	<ul style="list-style-type: none"> ▪ For the transmitter unwanted emissions shall be measured using following options below:
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
	<ul style="list-style-type: none"> ▪ For the transmitter band-edge emissions shall be measured using following options below:
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074 clause 8.7.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels.
	<ul style="list-style-type: none"> ▪ Use the following spectrum analyzer settings:
	<ul style="list-style-type: none"> ▪ Set RBW=100 kHz for $f < 1$ GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
	<ul style="list-style-type: none"> ▪ Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement. For average measurement, refer as 1.1.4.
	<ul style="list-style-type: none"> ▪ KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
	<ul style="list-style-type: none"> ▪ Based on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
	<ul style="list-style-type: none"> ▪ Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

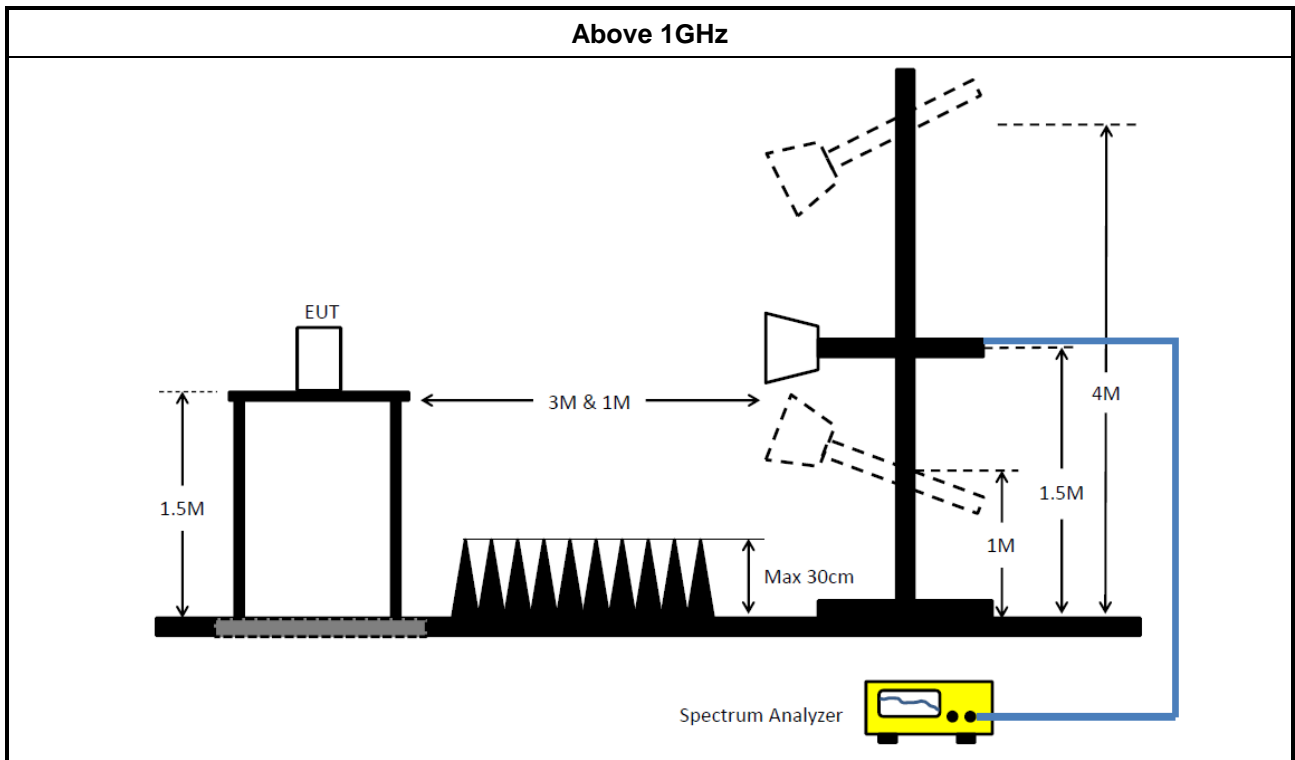
3.6.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

3.6.5 Test Setup





3.6.6 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR	102051	9kHz ~ 3.6GHz	13/May/2022	12/May/2023
Two-Line V-Network	R&S	ENV 216	100003	9kHz ~ 30MHz	18/Feb/2022	17/Feb/2023
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	01/Mar/2022	28/Feb/2023
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	26/Oct/2021	25/Oct/2022
Software	Sporton	SENSE-EMI	V5.10.14	-	NCR	NCR

NCR: No Calibration Required

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101029	10Hz~40GHz	20/Oct/2021	19/Oct/2022
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	21/Oct/2021	20/Oct/2022
Pulse Sensor	Anritsu	MA2411B	1027452	300MHz~40GHz	25/Mar/2022	24/Mar/2023
Power Meter	Anritsu	ML2495A	1124009	300MHz~40GHz	25/Mar/2022	24/Mar/2023
SENSE-15247_DTS	Sporton	V5.10.7.17	NA	NA	NA	NA



Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz~1GHz 3m	25/Mar/2022	24/Mar/2023
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz~18GHz 3m	17/Mar/2022	16/Mar/2023
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz~44GHz	13/Aug/2021	12/Aug/2022
Amplifier	EMC	EMC9135	980232	9kHz~1GHz	08/Apr/2022	07/Apr/2023
Microwave Preamplifier	Agilent	8449B	3008A02096	1GHz~26.5GHz	23/Jul/2021	22/Jul/2022
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D&MT J6102-05	35418 & 3	30MHz~1GHz	04/Sep/2021	03/Sep/2022
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1531	1GHz~18GHz	27/Dec/2021	26/Dec/2022
RF Cable-low	Jye Bao	RG142	CB031+324530/4	9kHz~30MHz	30/Aug/2021	29/Aug/2022
RF Cable-low	Jye Bao	RG142	CB031+324530/4	30MHz~1GHz	07/Feb/2022	06/Feb/2023
RF CABLE 5m+3m+1m	HUBER+SUHNE R	SUCOFLEX104	CB009	1GHz~40GHz	13/Aug/2021	12/Aug/2022
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	18GHz~40GHz	18/Mar/2022	17/Mar/2023
Microwave Premplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	08/Mar/2022	07/Mar/2023
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	18/Mar/2022	17/Mar/2023
EMI Test Receiver	R&S	ESU-26	100422	20Hz ~ 26.5GHz	05/Nov/2021	04/Nov/2022
SENSE-15247_FS	Sporton	NA	5.10.7.14	NA	NA	NA
SENSE-EMI	Sporton	NA	5.10.7.15	NA	NA	NA



Summary

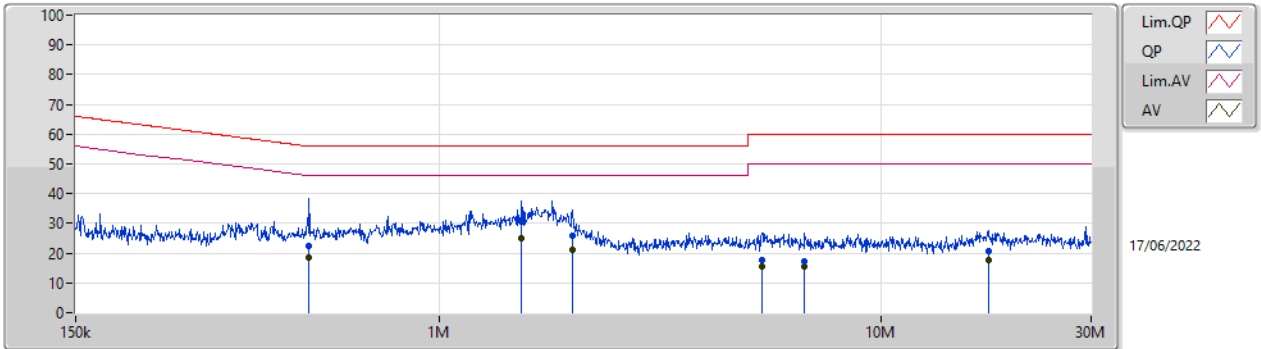
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	1.538M	25.00	46.00	-21.00	Line



Result

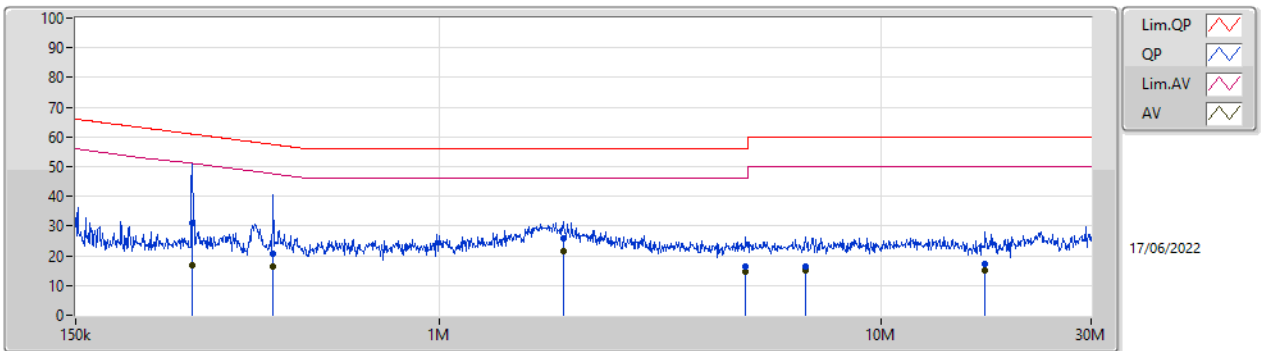
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	506.843k	22.36	56.00	-33.64	Line	-
Mode 1	Pass	AV	506.843k	18.63	46.00	-27.37	Line	-
Mode 1	Pass	QP	1.538M	30.60	56.00	-25.40	Line	-
Mode 1	Pass	AV	1.538M	25.00	46.00	-21.00	Line	-
Mode 1	Pass	QP	2.009M	25.81	56.00	-30.19	Line	-
Mode 1	Pass	AV	2.009M	21.24	46.00	-24.76	Line	-
Mode 1	Pass	QP	5.386M	17.55	60.00	-42.45	Line	-
Mode 1	Pass	AV	5.386M	15.67	50.00	-34.33	Line	-
Mode 1	Pass	QP	6.735M	17.24	60.00	-42.76	Line	-
Mode 1	Pass	AV	6.735M	15.56	50.00	-34.44	Line	-
Mode 1	Pass	QP	17.555M	20.56	60.00	-39.44	Line	-
Mode 1	Pass	AV	17.555M	17.62	50.00	-32.38	Line	-
Mode 1	Pass	QP	275.179k	31.06	60.95	-29.89	Neutral	-
Mode 1	Pass	AV	275.179k	17.00	50.95	-33.95	Neutral	-
Mode 1	Pass	QP	420.135k	20.59	57.45	-36.86	Neutral	-
Mode 1	Pass	AV	420.135k	16.23	47.45	-31.22	Neutral	-
Mode 1	Pass	QP	1.908M	25.74	56.00	-30.26	Neutral	-
Mode 1	Pass	AV	1.908M	21.35	46.00	-24.65	Neutral	-
Mode 1	Pass	QP	4.952M	16.43	56.00	-39.57	Neutral	-
Mode 1	Pass	AV	4.952M	14.85	46.00	-31.15	Neutral	-
Mode 1	Pass	QP	6.762M	16.26	60.00	-43.74	Neutral	-
Mode 1	Pass	AV	6.762M	14.94	50.00	-35.06	Neutral	-
Mode 1	Pass	QP	17.277M	17.37	60.00	-42.63	Neutral	-
Mode 1	Pass	AV	17.277M	15.29	50.00	-34.71	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	506.843k	22.36	56.00	-33.64	19.63	Line	-	2.73	9.68	0.04	9.91
AV	506.843k	18.63	46.00	-27.37	19.63	Line	-	-1.00	9.68	0.04	9.91
QP	1.538M	30.60	56.00	-25.40	19.68	Line	-	10.92	9.69	0.07	9.92
AV	1.538M	25.00	46.00	-21.00	19.68	Line	-	5.32	9.69	0.07	9.92
QP	2.009M	25.81	56.00	-30.19	19.70	Line	-	6.11	9.70	0.08	9.92
AV	2.009M	21.24	46.00	-24.76	19.70	Line	-	1.54	9.70	0.08	9.92
QP	5.386M	17.55	60.00	-42.45	19.81	Line	-	-2.26	9.74	0.15	9.92
AV	5.386M	15.67	50.00	-34.33	19.81	Line	-	-4.14	9.74	0.15	9.92
QP	6.735M	17.24	60.00	-42.76	19.86	Line	-	-2.62	9.77	0.16	9.93
AV	6.735M	15.56	50.00	-34.44	19.86	Line	-	-4.30	9.77	0.16	9.93
QP	17.555M	20.56	60.00	-39.44	19.98	Line	-	0.58	9.79	0.26	9.93
AV	17.555M	17.62	50.00	-32.38	19.98	Line	-	-2.36	9.79	0.26	9.93

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	275.179k	31.06	60.95	-29.89	19.66	Neutral	-	11.40	9.72	0.03	9.91
AV	275.179k	17.00	50.95	-33.95	19.66	Neutral	-	-2.66	9.72	0.03	9.91
QP	420.135k	20.59	57.45	-36.86	19.67	Neutral	-	0.92	9.72	0.04	9.91
AV	420.135k	16.23	47.45	-31.22	19.67	Neutral	-	-3.44	9.72	0.04	9.91
QP	1.908M	25.74	56.00	-30.26	19.74	Neutral	-	6.00	9.74	0.08	9.92
AV	1.908M	21.35	46.00	-24.65	19.74	Neutral	-	1.61	9.74	0.08	9.92
QP	4.952M	16.43	56.00	-39.57	19.85	Neutral	-	-3.42	9.79	0.14	9.92
AV	4.952M	14.85	46.00	-31.15	19.85	Neutral	-	-5.00	9.79	0.14	9.92
QP	6.762M	16.26	60.00	-43.74	19.92	Neutral	-	-3.66	9.83	0.16	9.93
AV	6.762M	14.94	50.00	-35.06	19.92	Neutral	-	-4.98	9.83	0.16	9.93
QP	17.277M	17.37	60.00	-42.63	20.15	Neutral	-	-2.78	9.97	0.25	9.93
AV	17.277M	15.29	50.00	-34.71	20.15	Neutral	-	-4.86	9.97	0.25	9.93



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 2	Pass	AV	383.278k	18.66	48.20	-29.54	Neutral
Mode 3	Pass	AV	1.569M	25.32	46.00	-20.68	Line
Mode 4	Pass	AV	386.35k	21.08	48.14	-27.06	Neutral
Mode 5	Pass	AV	1.431M	23.33	46.00	-22.67	Line

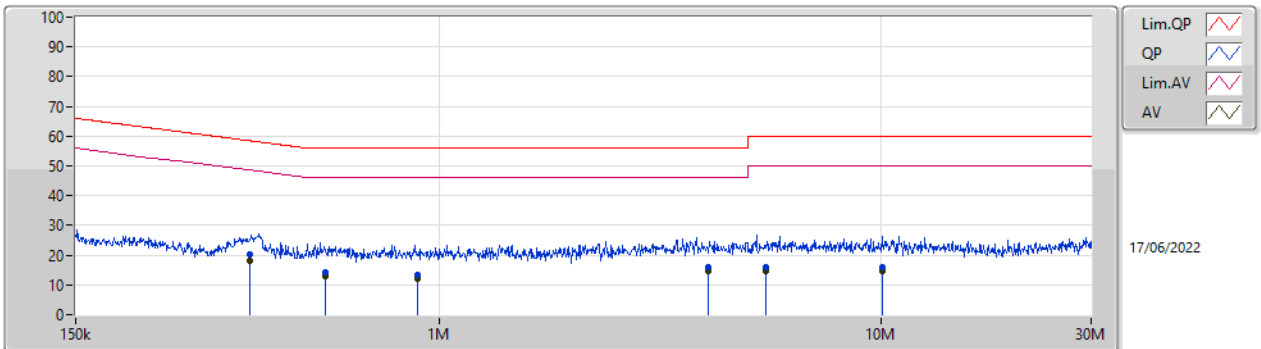






Result

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 2	Pass	QP	370.945k	20.37	58.49	-38.12	Line	-
Mode 2	Pass	AV	370.945k	18.24	48.49	-30.25	Line	-
Mode 2	Pass	QP	553.59k	14.38	56.00	-41.62	Line	-
Mode 2	Pass	AV	553.59k	12.85	46.00	-33.15	Line	-
Mode 2	Pass	QP	890.858k	13.20	56.00	-42.80	Line	-
Mode 2	Pass	AV	890.858k	12.05	46.00	-33.95	Line	-
Mode 2	Pass	QP	4.071M	16.04	56.00	-39.96	Line	-
Mode 2	Pass	AV	4.071M	14.49	46.00	-31.51	Line	-
Mode 2	Pass	QP	5.479M	16.08	60.00	-43.92	Line	-
Mode 2	Pass	AV	5.479M	14.70	50.00	-35.30	Line	-
Mode 2	Pass	QP	10.086M	15.86	60.00	-44.14	Line	-
Mode 2	Pass	AV	10.086M	14.70	50.00	-35.30	Line	-
Mode 2	Pass	QP	383.278k	20.81	58.20	-37.39	Neutral	-
Mode 2	Pass	AV	383.278k	18.66	48.20	-29.54	Neutral	-
Mode 2	Pass	QP	548.969k	14.39	56.00	-41.61	Neutral	-
Mode 2	Pass	AV	548.969k	12.78	46.00	-33.22	Neutral	-
Mode 2	Pass	QP	773.833k	13.45	56.00	-42.55	Neutral	-
Mode 2	Pass	AV	773.833k	12.10	46.00	-33.90	Neutral	-
Mode 2	Pass	QP	1.316M	13.61	56.00	-42.39	Neutral	-
Mode 2	Pass	AV	1.316M	12.35	46.00	-33.65	Neutral	-
Mode 2	Pass	QP	2.787M	14.92	56.00	-41.08	Neutral	-
Mode 2	Pass	AV	2.787M	13.47	46.00	-32.53	Neutral	-
Mode 2	Pass	QP	9.88M	15.82	60.00	-44.18	Neutral	-
Mode 2	Pass	AV	9.88M	14.85	50.00	-35.15	Neutral	-
Mode 3	Pass	QP	175.97k	21.90	64.68	-42.78	Line	-
Mode 3	Pass	AV	175.97k	18.27	54.68	-36.41	Line	-
Mode 3	Pass	QP	313.927k	22.12	59.86	-37.74	Line	-
Mode 3	Pass	AV	313.927k	17.42	49.86	-32.44	Line	-
Mode 3	Pass	QP	1.569M	31.30	56.00	-24.70	Line	-
Mode 3	Pass	AV	1.569M	25.32	46.00	-20.68	Line	-
Mode 3	Pass	QP	6.681M	17.42	60.00	-42.58	Line	-
Mode 3	Pass	AV	6.681M	15.61	50.00	-34.39	Line	-
Mode 3	Pass	QP	9.569M	16.75	60.00	-43.25	Line	-
Mode 3	Pass	AV	9.569M	15.15	50.00	-34.85	Line	-
Mode 3	Pass	QP	23.778M	18.20	60.00	-41.80	Line	-
Mode 3	Pass	AV	23.778M	15.92	50.00	-34.08	Line	-
Mode 3	Pass	QP	261.263k	19.55	61.39	-41.84	Neutral	-
Mode 3	Pass	AV	261.263k	16.60	51.39	-34.79	Neutral	-
Mode 3	Pass	QP	1.855M	26.64	56.00	-29.36	Neutral	-
Mode 3	Pass	AV	1.855M	22.10	46.00	-23.90	Neutral	-
Mode 3	Pass	QP	2.798M	20.85	56.00	-35.15	Neutral	-
Mode 3	Pass	AV	2.798M	16.92	46.00	-29.08	Neutral	-
Mode 3	Pass	QP	5.386M	16.20	60.00	-43.80	Neutral	-
Mode 3	Pass	AV	5.386M	14.94	50.00	-35.06	Neutral	-
Mode 3	Pass	QP	9.343M	16.18	60.00	-43.82	Neutral	-
Mode 3	Pass	AV	9.343M	14.86	50.00	-35.14	Neutral	-
Mode 3	Pass	QP	12.807M	18.13	60.00	-41.87	Neutral	-
Mode 3	Pass	AV	12.807M	15.99	50.00	-34.01	Neutral	-
Mode 4	Pass	QP	381.751k	21.27	58.24	-36.97	Line	-
Mode 4	Pass	AV	381.751k	19.26	48.24	-28.98	Line	-

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 4	Pass	QP	749.51k	13.25	56.00	-42.75	Line	-
Mode 4	Pass	AV	749.51k	12.01	46.00	-33.99	Line	-
Mode 4	Pass	QP	1.074M	13.81	56.00	-42.19	Line	-
Mode 4	Pass	AV	1.074M	12.38	46.00	-33.62	Line	-
Mode 4	Pass	QP	4.205M	15.62	56.00	-40.38	Line	-
Mode 4	Pass	AV	4.205M	14.35	46.00	-31.65	Line	-
Mode 4	Pass	QP	8.125M	16.40	60.00	-43.60	Line	-
Mode 4	Pass	AV	8.125M	14.92	50.00	-35.08	Line	-
Mode 4	Pass	QP	11.777M	16.10	60.00	-43.90	Line	-
Mode 4	Pass	AV	11.777M	14.77	50.00	-35.23	Line	-
Mode 4	Pass	QP	213.989k	18.90	63.06	-44.16	Neutral	-
Mode 4	Pass	AV	213.989k	16.53	53.06	-36.53	Neutral	-
Mode 4	Pass	QP	386.35k	22.49	58.14	-35.65	Neutral	-
Mode 4	Pass	AV	386.35k	21.08	48.14	-27.06	Neutral	-
Mode 4	Pass	QP	746.524k	13.78	56.00	-42.22	Neutral	-
Mode 4	Pass	AV	746.524k	12.27	46.00	-33.73	Neutral	-
Mode 4	Pass	QP	1.594M	13.51	56.00	-42.49	Neutral	-
Mode 4	Pass	AV	1.594M	12.50	46.00	-33.50	Neutral	-
Mode 4	Pass	QP	3.992M	15.84	56.00	-40.16	Neutral	-
Mode 4	Pass	AV	3.992M	14.48	46.00	-31.52	Neutral	-
Mode 4	Pass	QP	12.404M	16.09	60.00	-43.91	Neutral	-
Mode 4	Pass	AV	12.404M	14.48	50.00	-35.52	Neutral	-
Mode 5	Pass	QP	193.664k	36.07	63.88	-27.81	Line	-
Mode 5	Pass	AV	193.664k	18.74	53.88	-35.14	Line	-
Mode 5	Pass	QP	208.092k	39.19	63.28	-24.09	Line	-
Mode 5	Pass	AV	208.092k	19.34	53.28	-33.94	Line	-
Mode 5	Pass	QP	306.497k	21.28	60.07	-38.79	Line	-
Mode 5	Pass	AV	306.497k	16.93	50.07	-33.14	Line	-
Mode 5	Pass	QP	1.431M	28.87	56.00	-27.13	Line	-
Mode 5	Pass	AV	1.431M	23.33	46.00	-22.67	Line	-
Mode 5	Pass	QP	11.362M	16.91	60.00	-43.09	Line	-
Mode 5	Pass	AV	11.362M	15.29	50.00	-34.71	Line	-
Mode 5	Pass	QP	29.147M	23.84	60.00	-36.16	Line	-
Mode 5	Pass	AV	29.147M	20.10	50.00	-29.90	Line	-
Mode 5	Pass	QP	220.053k	18.15	62.81	-44.66	Neutral	-
Mode 5	Pass	AV	220.053k	15.22	52.81	-37.59	Neutral	-
Mode 5	Pass	QP	1.826M	27.03	56.00	-28.97	Neutral	-
Mode 5	Pass	AV	1.826M	22.30	46.00	-23.70	Neutral	-
Mode 5	Pass	QP	2.594M	19.32	56.00	-36.68	Neutral	-
Mode 5	Pass	AV	2.594M	16.55	46.00	-29.45	Neutral	-
Mode 5	Pass	QP	6.218M	16.32	60.00	-43.68	Neutral	-
Mode 5	Pass	AV	6.218M	15.04	50.00	-34.96	Neutral	-
Mode 5	Pass	QP	9.269M	16.43	60.00	-43.57	Neutral	-
Mode 5	Pass	AV	9.269M	14.84	50.00	-35.16	Neutral	-
Mode 5	Pass	QP	12.159M	17.73	60.00	-42.27	Neutral	-
Mode 5	Pass	AV	12.159M	15.74	50.00	-34.26	Neutral	-

Conducted Emissions at Powerline_Mode 2

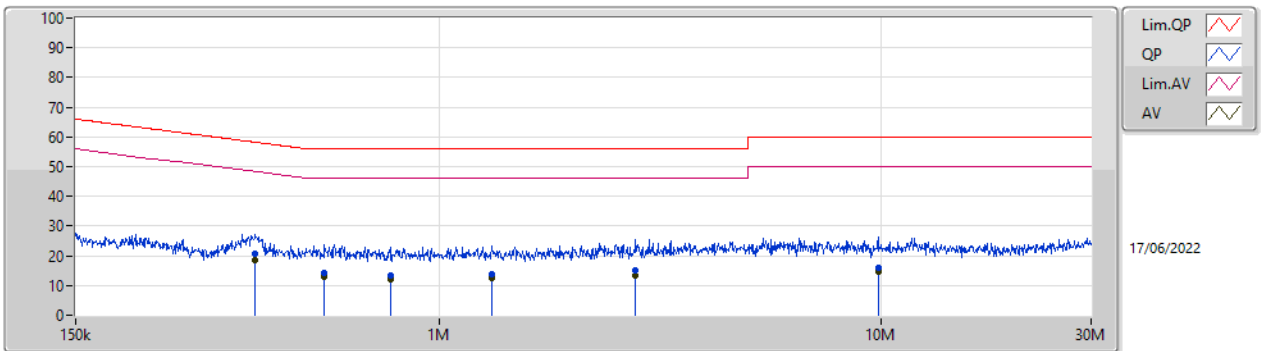






Lim.QP 
 QP 
 Lim.AV 
 AV 

17/06/2022

Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	370.945k	20.37	58.49	-38.12	19.63	Line	-	0.74	9.68	0.04	9.91
AV	370.945k	18.24	48.49	-30.25	19.63	Line	-	-1.39	9.68	0.04	9.91
QP	553.59k	14.38	56.00	-41.62	19.63	Line	-	-5.25	9.68	0.04	9.91
AV	553.59k	12.85	46.00	-33.15	19.63	Line	-	-6.78	9.68	0.04	9.91
QP	890.858k	13.20	56.00	-42.80	19.65	Line	-	-6.45	9.68	0.05	9.92
AV	890.858k	12.05	46.00	-33.95	19.65	Line	-	-7.60	9.68	0.05	9.92
QP	4.071M	16.04	56.00	-39.96	19.76	Line	-	-3.72	9.71	0.13	9.92
AV	4.071M	14.49	46.00	-31.51	19.76	Line	-	-5.27	9.71	0.13	9.92
QP	5.479M	16.08	60.00	-43.92	19.81	Line	-	-3.73	9.74	0.15	9.92
AV	5.479M	14.70	50.00	-35.30	19.81	Line	-	-5.11	9.74	0.15	9.92
QP	10.086M	15.86	60.00	-44.14	19.92	Line	-	-4.06	9.81	0.18	9.93
AV	10.086M	14.70	50.00	-35.30	19.92	Line	-	-5.22	9.81	0.18	9.93

Conducted Emissions at Powerline_Mode 2

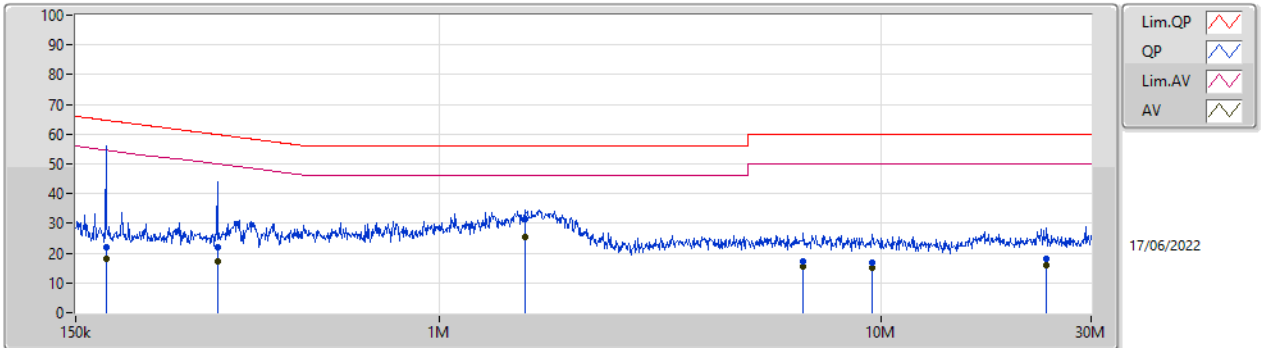


Lim.QP 
 QP 
 Lim.AV 
 AV 

17/06/2022

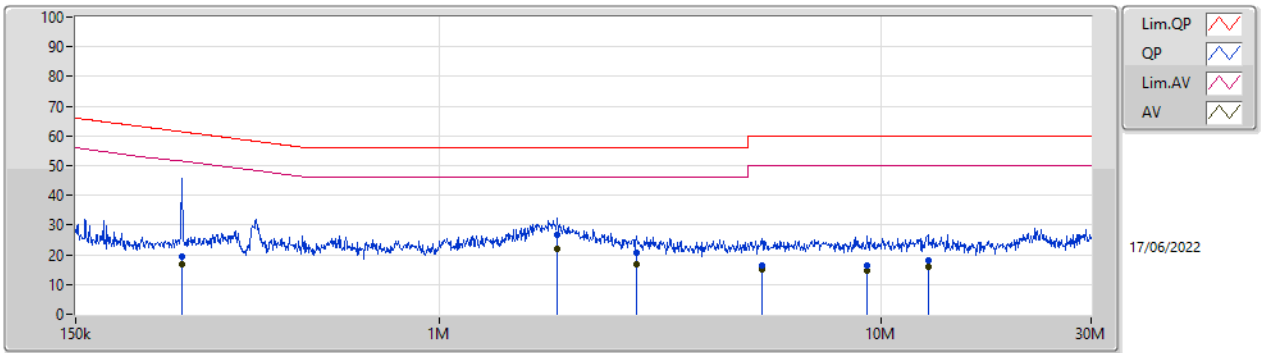
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	383.278k	20.81	58.20	-37.39	19.67	Neutral	-	1.14	9.72	0.04	9.91
AV	383.278k	18.66	48.20	-29.54	19.67	Neutral	-	-1.01	9.72	0.04	9.91
QP	548.969k	14.39	56.00	-41.61	19.67	Neutral	-	-5.28	9.72	0.04	9.91
AV	548.969k	12.78	46.00	-33.22	19.67	Neutral	-	-6.89	9.72	0.04	9.91
QP	773.833k	13.45	56.00	-42.55	19.70	Neutral	-	-6.25	9.73	0.05	9.92
AV	773.833k	12.10	46.00	-33.90	19.70	Neutral	-	-7.60	9.73	0.05	9.92
QP	1.316M	13.61	56.00	-42.39	19.71	Neutral	-	-6.10	9.73	0.06	9.92
AV	1.316M	12.35	46.00	-33.65	19.71	Neutral	-	-7.36	9.73	0.06	9.92
QP	2.787M	14.92	56.00	-41.08	19.77	Neutral	-	-4.85	9.75	0.10	9.92
AV	2.787M	13.47	46.00	-32.53	19.77	Neutral	-	-6.30	9.75	0.10	9.92
QP	9.88M	15.82	60.00	-44.18	20.00	Neutral	-	-4.18	9.89	0.18	9.93
AV	9.88M	14.85	50.00	-35.15	20.00	Neutral	-	-5.15	9.89	0.18	9.93

Conducted Emissions at Powerline_Mode 3



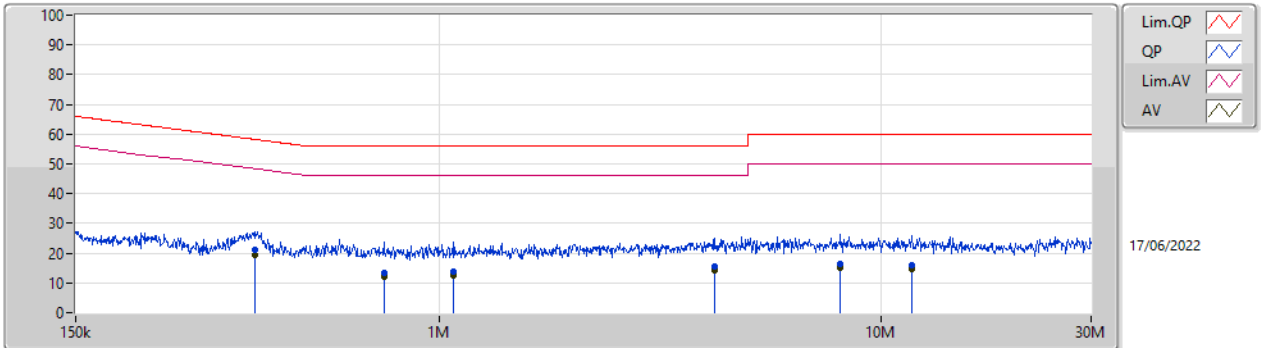
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	175.97k	21.90	64.68	-42.78	19.63	Line	-	2.27	9.69	0.03	9.91
AV	175.97k	18.27	54.68	-36.41	19.63	Line	-	-1.36	9.69	0.03	9.91
QP	313.927k	22.12	59.86	-37.74	19.63	Line	-	2.49	9.68	0.04	9.91
AV	313.927k	17.42	49.86	-32.44	19.63	Line	-	-2.21	9.68	0.04	9.91
QP	1.569M	31.30	56.00	-24.70	19.68	Line	-	11.62	9.69	0.07	9.92
AV	1.569M	25.32	46.00	-20.68	19.68	Line	-	5.64	9.69	0.07	9.92
QP	6.681M	17.42	60.00	-42.58	19.86	Line	-	-2.44	9.77	0.16	9.93
AV	6.681M	15.61	50.00	-34.39	19.86	Line	-	-4.25	9.77	0.16	9.93
QP	9.569M	16.75	60.00	-43.25	19.92	Line	-	-3.17	9.81	0.18	9.93
AV	9.569M	15.15	50.00	-34.85	19.92	Line	-	-4.77	9.81	0.18	9.93
QP	23.778M	18.20	60.00	-41.80	20.03	Line	-	-1.83	9.80	0.30	9.93
AV	23.778M	15.92	50.00	-34.08	20.03	Line	-	-4.11	9.80	0.30	9.93

Conducted Emissions at Powerline_Mode 3



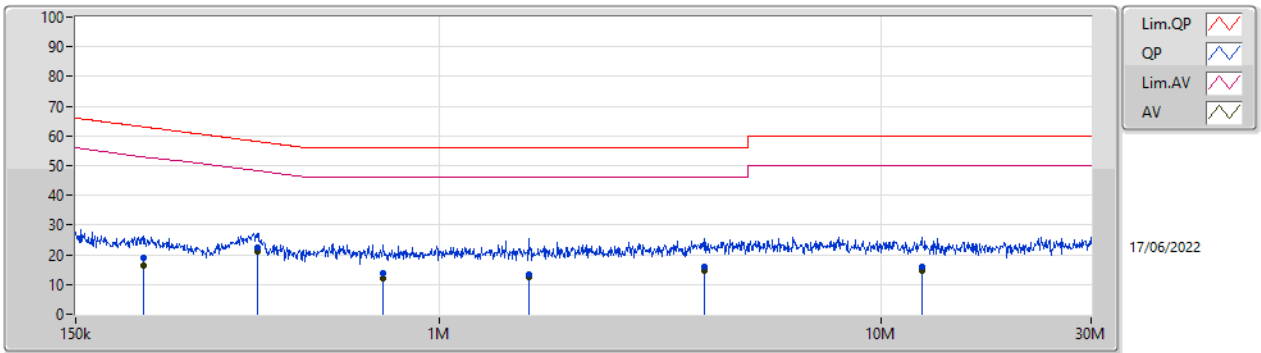
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	261.263k	19.55	61.39	-41.84	19.66	Neutral	-	-0.11	9.72	0.03	9.91
AV	261.263k	16.60	51.39	-34.79	19.66	Neutral	-	-3.06	9.72	0.03	9.91
QP	1.855M	26.64	56.00	-29.36	19.74	Neutral	-	6.90	9.74	0.08	9.92
AV	1.855M	22.10	46.00	-23.90	19.74	Neutral	-	2.36	9.74	0.08	9.92
QP	2.798M	20.85	56.00	-35.15	19.77	Neutral	-	1.08	9.75	0.10	9.92
AV	2.798M	16.92	46.00	-29.08	19.77	Neutral	-	-2.85	9.75	0.10	9.92
QP	5.386M	16.20	60.00	-43.80	19.87	Neutral	-	-3.67	9.80	0.15	9.92
AV	5.386M	14.94	50.00	-35.06	19.87	Neutral	-	-4.93	9.80	0.15	9.92
QP	9.343M	16.18	60.00	-43.82	19.99	Neutral	-	-3.81	9.88	0.18	9.93
AV	9.343M	14.86	50.00	-35.14	19.99	Neutral	-	-5.13	9.88	0.18	9.93
QP	12.807M	18.13	60.00	-41.87	20.08	Neutral	-	-1.95	9.93	0.22	9.93
AV	12.807M	15.99	50.00	-34.01	20.08	Neutral	-	-4.09	9.93	0.22	9.93

Conducted Emissions at Powerline_Mode 4



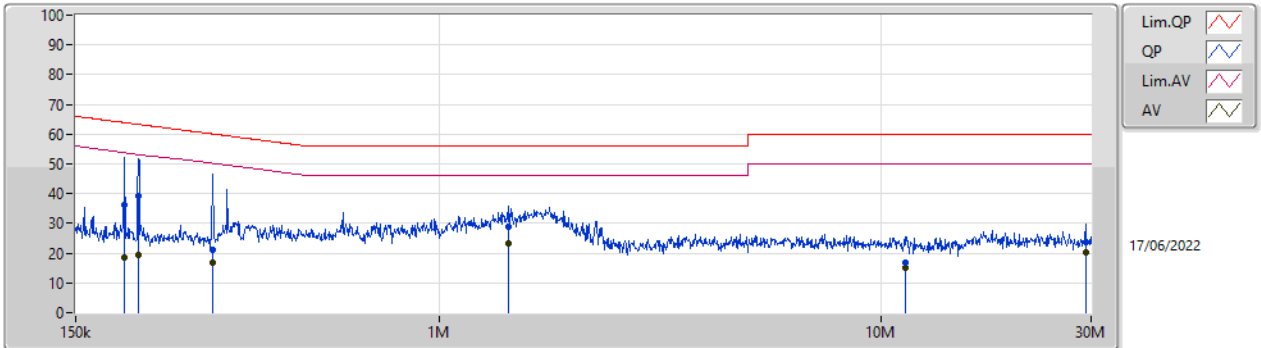
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	381.751k	21.27	58.24	-36.97	19.63	Line	-	1.64	9.68	0.04	9.91
AV	381.751k	19.26	48.24	-28.98	19.63	Line	-	-0.37	9.68	0.04	9.91
QP	749.51k	13.25	56.00	-42.75	19.65	Line	-	-6.40	9.68	0.05	9.92
AV	749.51k	12.01	46.00	-33.99	19.65	Line	-	-7.64	9.68	0.05	9.92
QP	1.074M	13.81	56.00	-42.19	19.65	Line	-	-5.84	9.68	0.05	9.92
AV	1.074M	12.38	46.00	-33.62	19.65	Line	-	-7.27	9.68	0.05	9.92
QP	4.205M	15.62	56.00	-40.38	19.77	Line	-	-4.15	9.72	0.13	9.92
AV	4.205M	14.35	46.00	-31.65	19.77	Line	-	-5.42	9.72	0.13	9.92
QP	8.125M	16.40	60.00	-43.60	19.89	Line	-	-3.49	9.79	0.17	9.93
AV	8.125M	14.92	50.00	-35.08	19.89	Line	-	-4.97	9.79	0.17	9.93
QP	11.777M	16.10	60.00	-43.90	19.94	Line	-	-3.84	9.81	0.20	9.93
AV	11.777M	14.77	50.00	-35.23	19.94	Line	-	-5.17	9.81	0.20	9.93

Conducted Emissions at Powerline_Mode 4



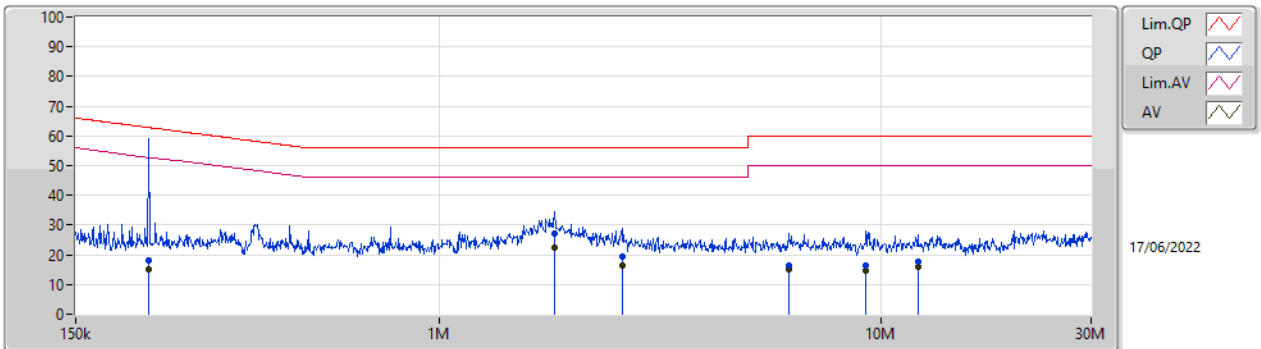
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	213.989k	18.90	63.06	-44.16	19.66	Neutral	-	-0.76	9.72	0.03	9.91
AV	213.989k	16.53	53.06	-36.53	19.66	Neutral	-	-3.13	9.72	0.03	9.91
QP	386.35k	22.49	58.14	-35.65	19.67	Neutral	-	2.82	9.72	0.04	9.91
AV	386.35k	21.08	48.14	-27.06	19.67	Neutral	-	1.41	9.72	0.04	9.91
QP	746.524k	13.78	56.00	-42.22	19.70	Neutral	-	-5.92	9.73	0.05	9.92
AV	746.524k	12.27	46.00	-33.73	19.70	Neutral	-	-7.43	9.73	0.05	9.92
QP	1.594M	13.51	56.00	-42.49	19.73	Neutral	-	-6.22	9.74	0.07	9.92
AV	1.594M	12.50	46.00	-33.50	19.73	Neutral	-	-7.23	9.74	0.07	9.92
QP	3.992M	15.84	56.00	-40.16	19.81	Neutral	-	-3.97	9.76	0.13	9.92
AV	3.992M	14.48	46.00	-31.52	19.81	Neutral	-	-5.33	9.76	0.13	9.92
QP	12.404M	16.09	60.00	-43.91	20.06	Neutral	-	-3.97	9.92	0.21	9.93
AV	12.404M	14.48	50.00	-35.52	20.06	Neutral	-	-5.58	9.92	0.21	9.93

Conducted Emissions at Powerline_Mode 5



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	193.664k	36.07	63.88	-27.81	19.63	Line	-	16.44	9.69	0.03	9.91
AV	193.664k	18.74	53.88	-35.14	19.63	Line	-	-0.89	9.69	0.03	9.91
QP	208.092k	39.19	63.28	-24.09	19.63	Line	-	19.56	9.69	0.03	9.91
AV	208.092k	19.34	53.28	-33.94	19.63	Line	-	-0.29	9.69	0.03	9.91
QP	306.497k	21.28	60.07	-38.79	19.63	Line	-	1.65	9.68	0.04	9.91
AV	306.497k	16.93	50.07	-33.14	19.63	Line	-	-2.70	9.68	0.04	9.91
QP	1.431M	28.87	56.00	-27.13	19.68	Line	-	9.19	9.69	0.07	9.92
AV	1.431M	23.33	46.00	-22.67	19.68	Line	-	3.65	9.69	0.07	9.92
QP	11.362M	16.91	60.00	-43.09	19.94	Line	-	-3.03	9.81	0.20	9.93
AV	11.362M	15.29	50.00	-34.71	19.94	Line	-	-4.65	9.81	0.20	9.93
QP	29.147M	23.84	60.00	-36.16	20.09	Line	-	3.75	9.81	0.34	9.94
AV	29.147M	20.10	50.00	-29.90	20.09	Line	-	0.01	9.81	0.34	9.94

Conducted Emissions at Powerline_Mode 5



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	220.053k	18.15	62.81	-44.66	19.66	Neutral	-	-1.51	9.72	0.03	9.91
AV	220.053k	15.22	52.81	-37.59	19.66	Neutral	-	-4.44	9.72	0.03	9.91
QP	1.826M	27.03	56.00	-28.97	19.74	Neutral	-	7.29	9.74	0.08	9.92
AV	1.826M	22.30	46.00	-23.70	19.74	Neutral	-	2.56	9.74	0.08	9.92
QP	2.594M	19.32	56.00	-36.68	19.77	Neutral	-	-0.45	9.75	0.10	9.92
AV	2.594M	16.55	46.00	-29.45	19.77	Neutral	-	-3.22	9.75	0.10	9.92
QP	6.218M	16.32	60.00	-43.68	19.89	Neutral	-	-3.57	9.82	0.15	9.92
AV	6.218M	15.04	50.00	-34.96	19.89	Neutral	-	-4.85	9.82	0.15	9.92
QP	9.269M	16.43	60.00	-43.57	19.99	Neutral	-	-3.56	9.88	0.18	9.93
AV	9.269M	14.84	50.00	-35.16	19.99	Neutral	-	-5.15	9.88	0.18	9.93
QP	12.159M	17.73	60.00	-42.27	20.06	Neutral	-	-2.33	9.92	0.21	9.93
AV	12.159M	15.74	50.00	-34.26	20.06	Neutral	-	-4.32	9.92	0.21	9.93



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	792.5k	1.063M	1M06F1D	753.75k	1.051M

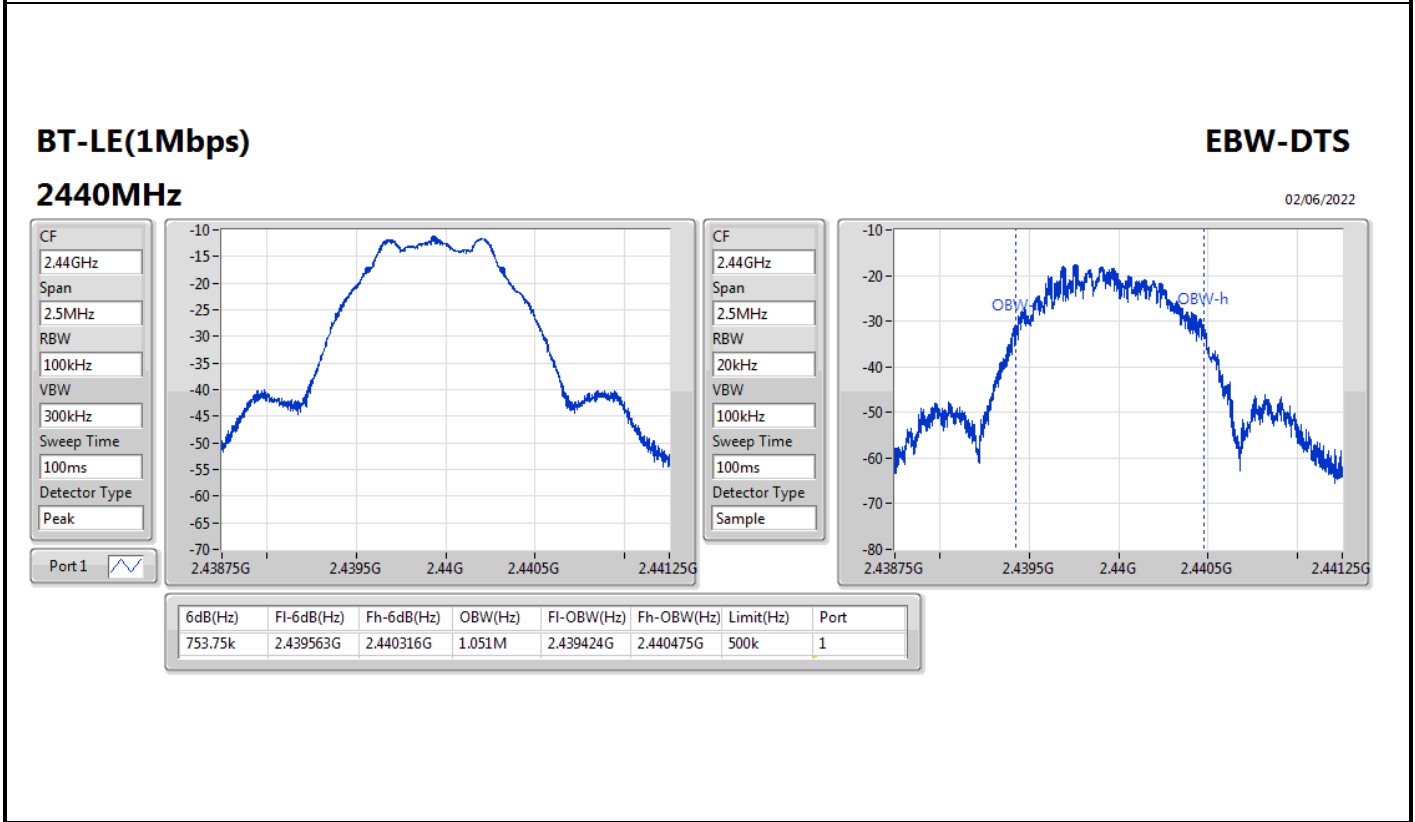
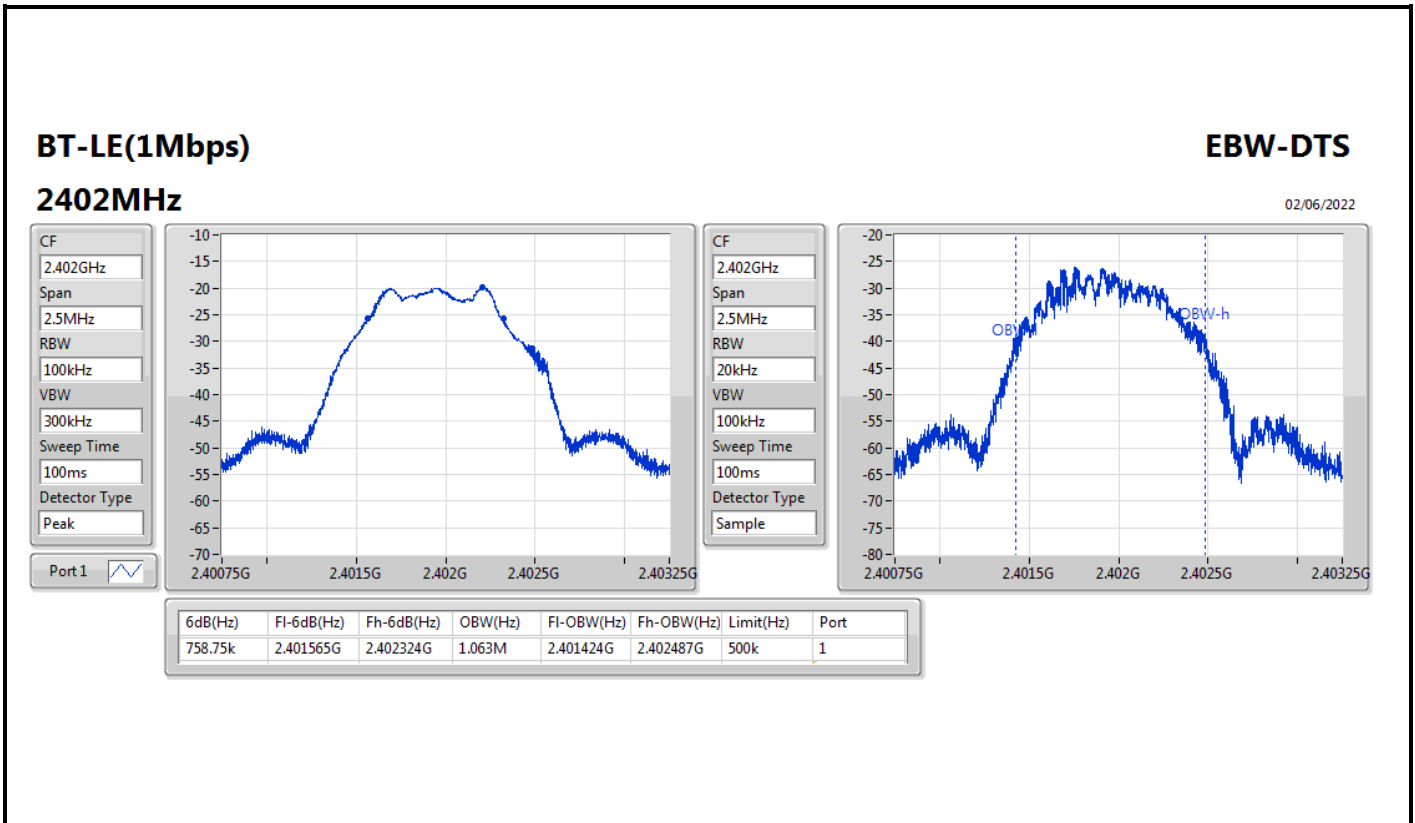
Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth



Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	758.75k	1.063M
2440MHz	Pass	500k	753.75k	1.051M
2480MHz	Pass	500k	792.5k	1.059M

Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth



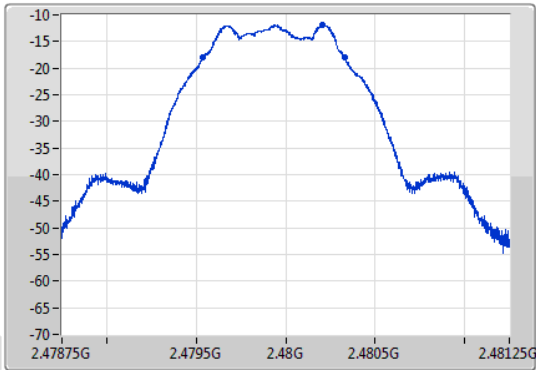
BT-LE(1Mbps)

EBW-DTS

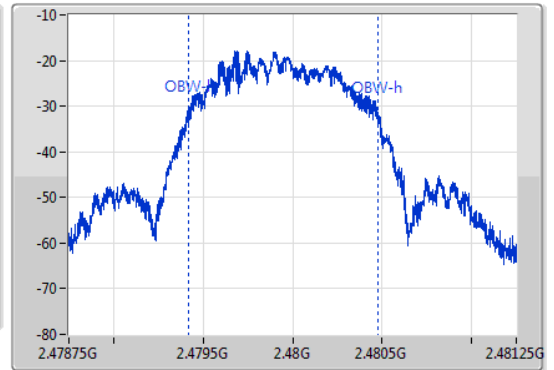
2480MHz

02/06/2022

CF
2.48GHz
Span
2.5MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.48GHz
Span
2.5MHz
RBW
20kHz
VBW
100kHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
792.5k	2.479539G	2.480331G	1.059M	2.479415G	2.480475G	500k	1



Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	-10.77	0.00008



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	-13.42	-19.17	30.00
2440MHz	Pass	-13.42	-10.77	30.00
2480MHz	Pass	-13.42	-11.04	30.00

DG = Directional Gain; Port X = Port X output power



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-26.51

RBW = 3kHz;



Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	-13.42	-34.39	8.00
2440MHz	Pass	-13.42	-26.85	8.00
2480MHz	Pass	-13.42	-26.51	8.00

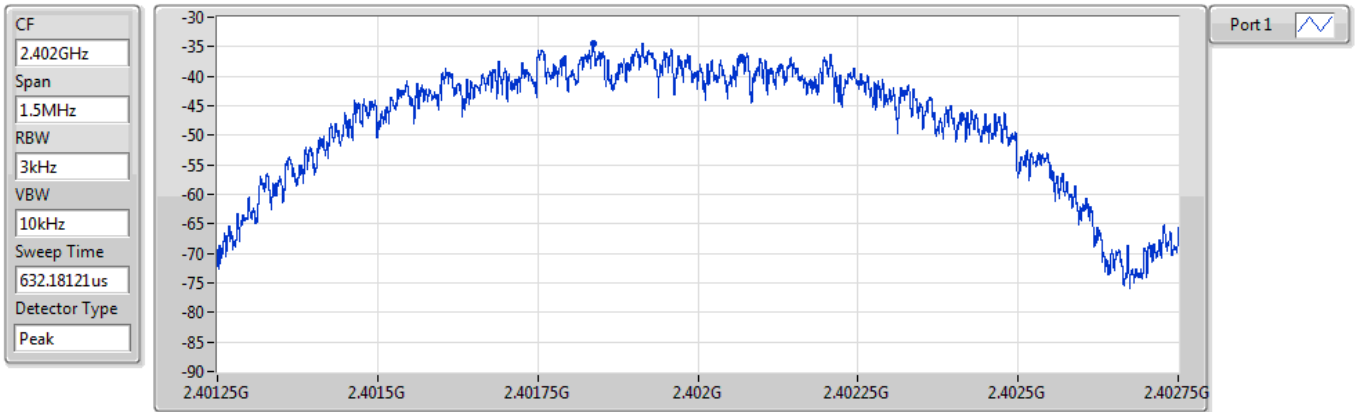
DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

BT-LE(1Mbps)

PSD

2402MHz

02/06/2022



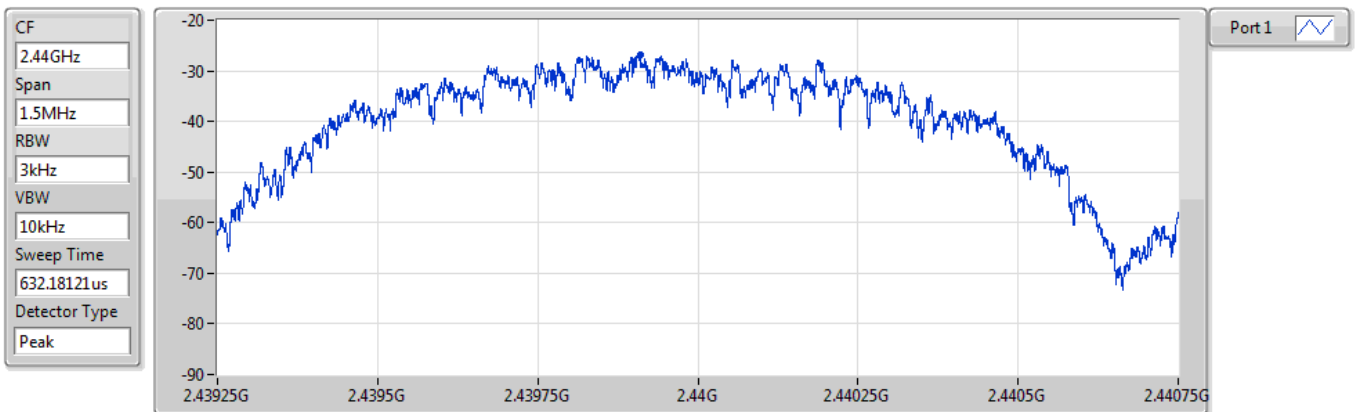
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-34.39	-34.39	-34.39

BT-LE(1Mbps)

PSD

2440MHz

02/06/2022



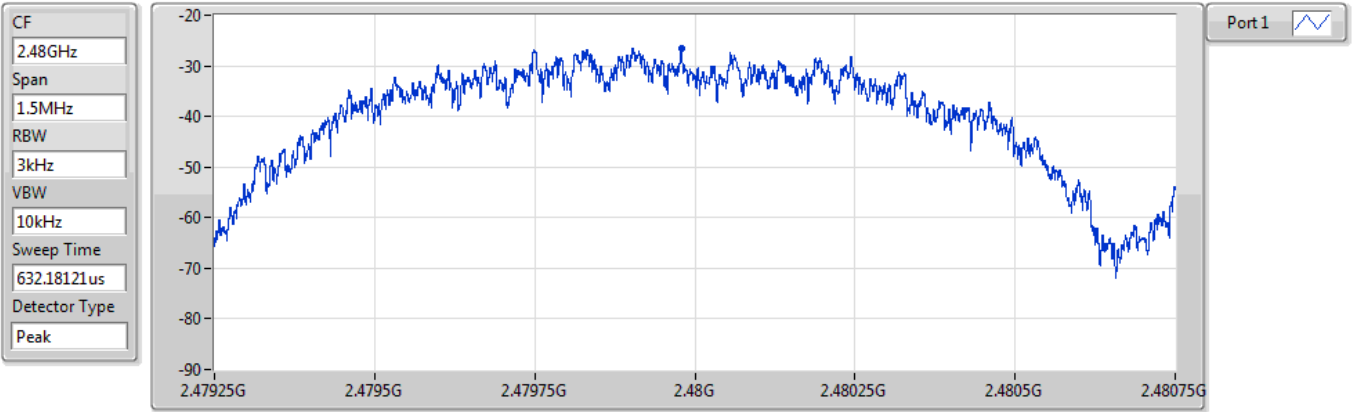
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-26.85	-26.85	-26.85

BT-LE(1Mbps)

PSD

2480MHz

02/06/2022



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-26.51	-26.51	-26.51



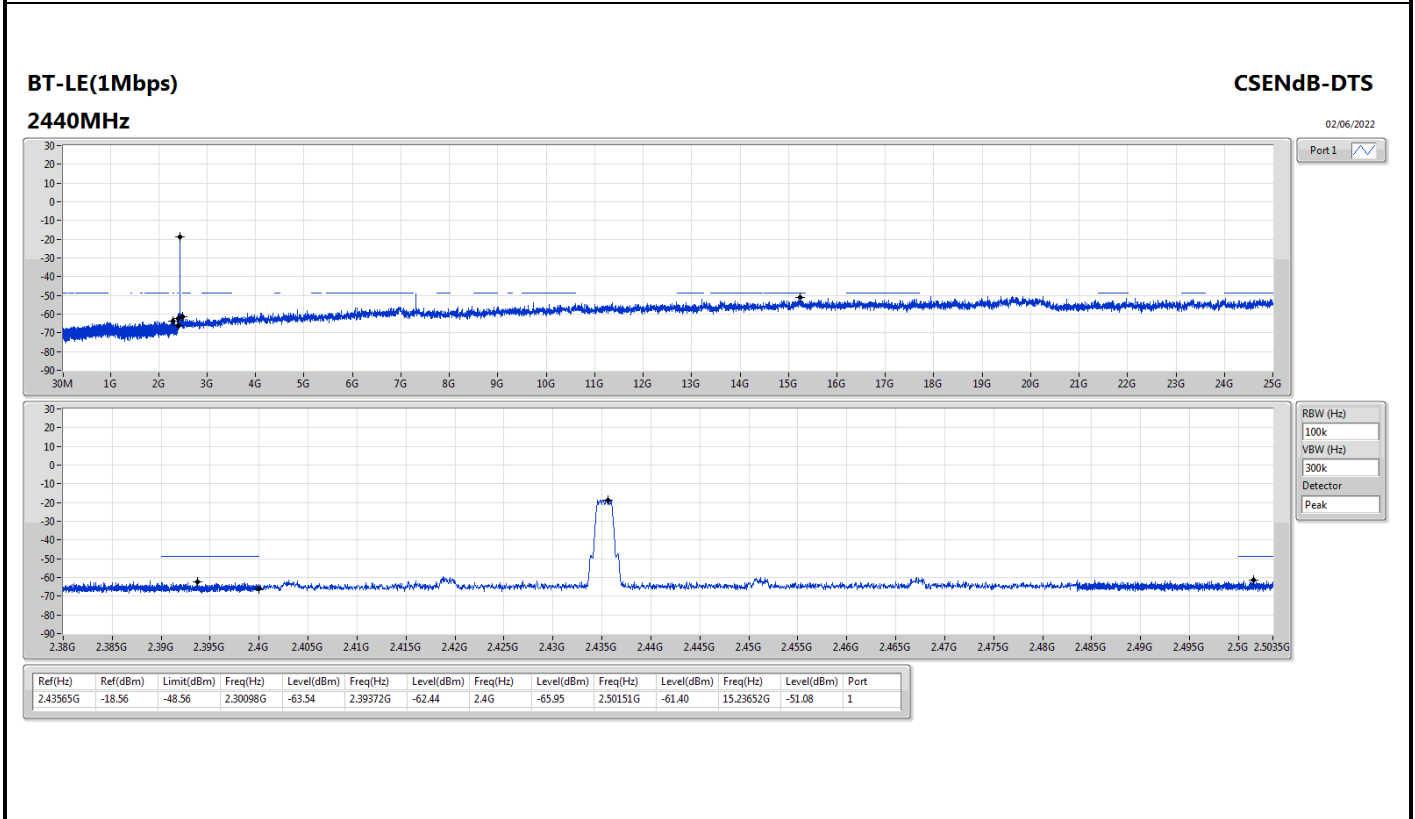
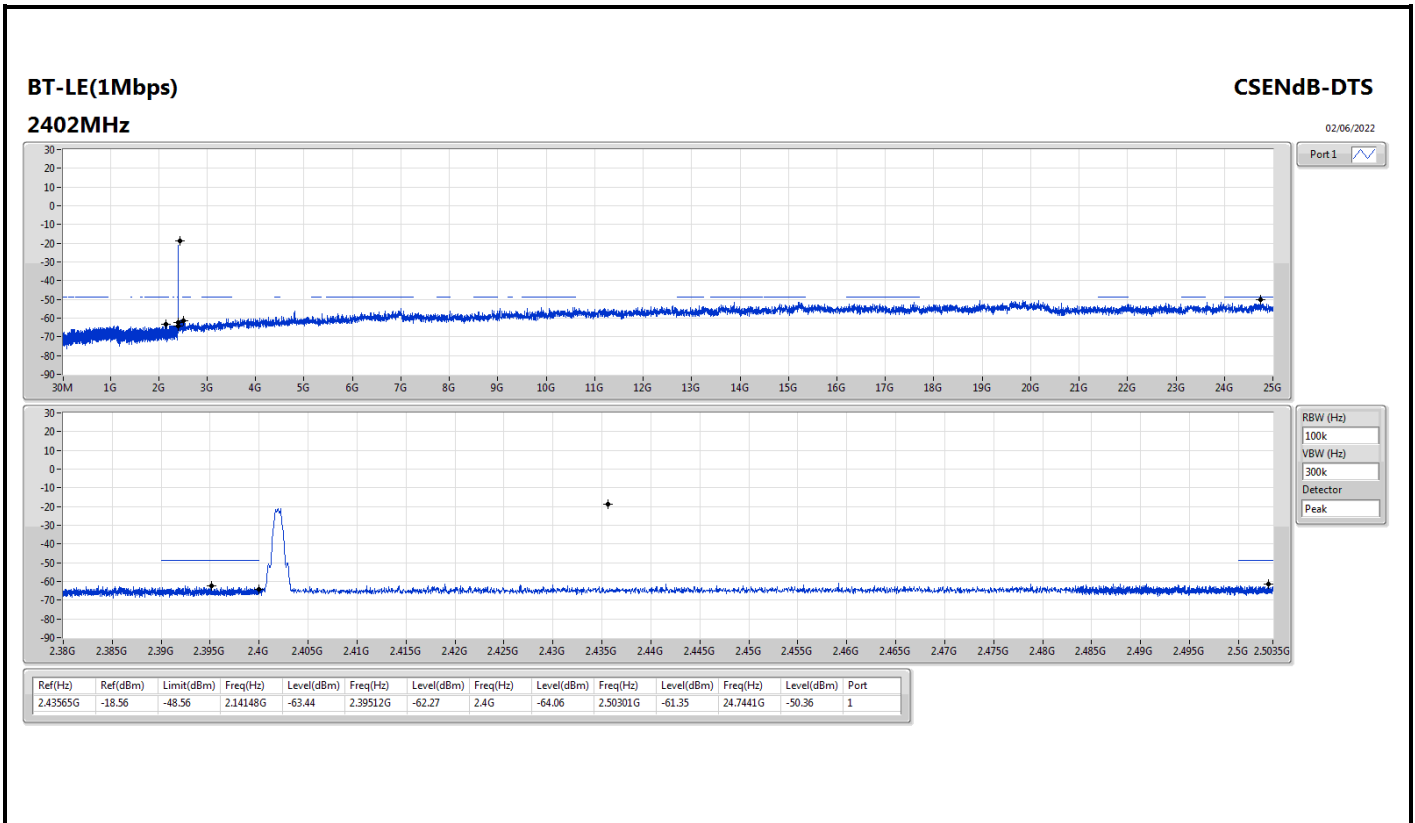
Summary

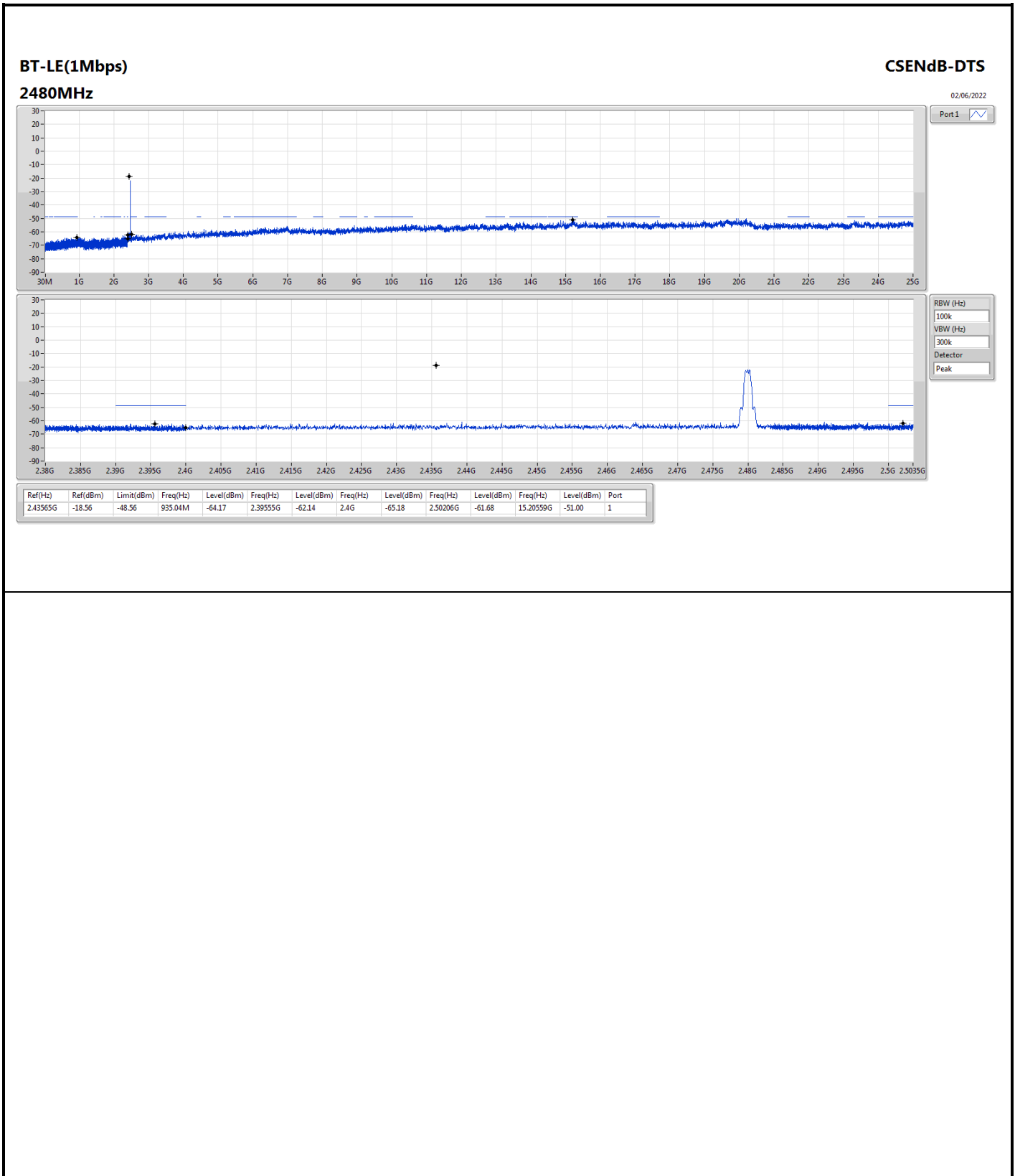
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.43565G	-18.56	-48.56	2.14148G	-63.44	2.39512G	-62.27	2.4G	-64.06	2.50301G	-61.35	24.7441G	-50.36	1



Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.43565G	-18.56	-48.56	2.14148G	-63.44	2.39512G	-62.27	2.4G	-64.06	2.50301G	-61.35	24.7441G	-50.36	1
2440MHz	Pass	2.43565G	-18.56	-48.56	2.30098G	-63.54	2.39372G	-62.44	2.4G	-65.95	2.50151G	-61.40	15.23652G	-51.08	1
2480MHz	Pass	2.43565G	-18.56	-48.56	935.04M	-64.17	2.39555G	-62.14	2.4G	-65.18	2.50206G	-61.68	15.20559G	-51.00	1







Summary

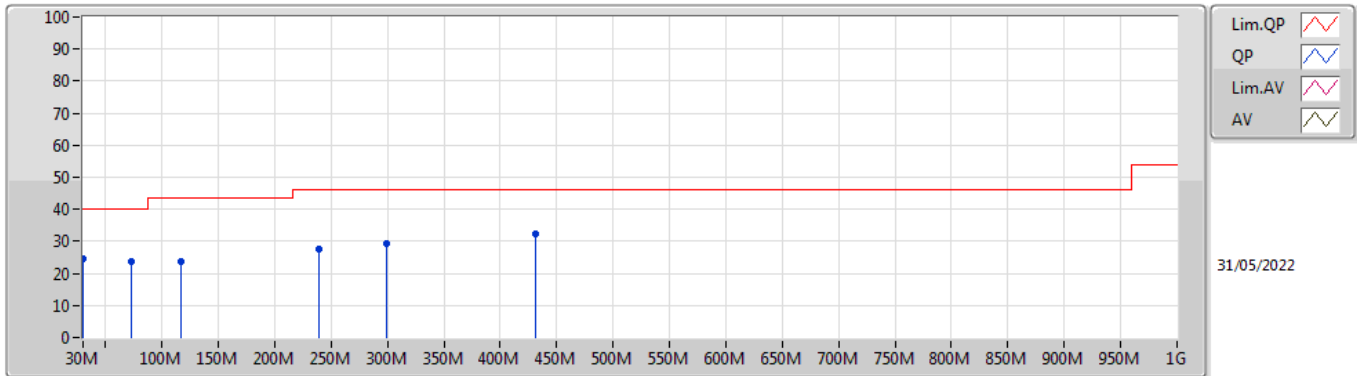
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	431.58M	41.43	46.00	-4.57	3	Horizontal	0	1.00	-



Result

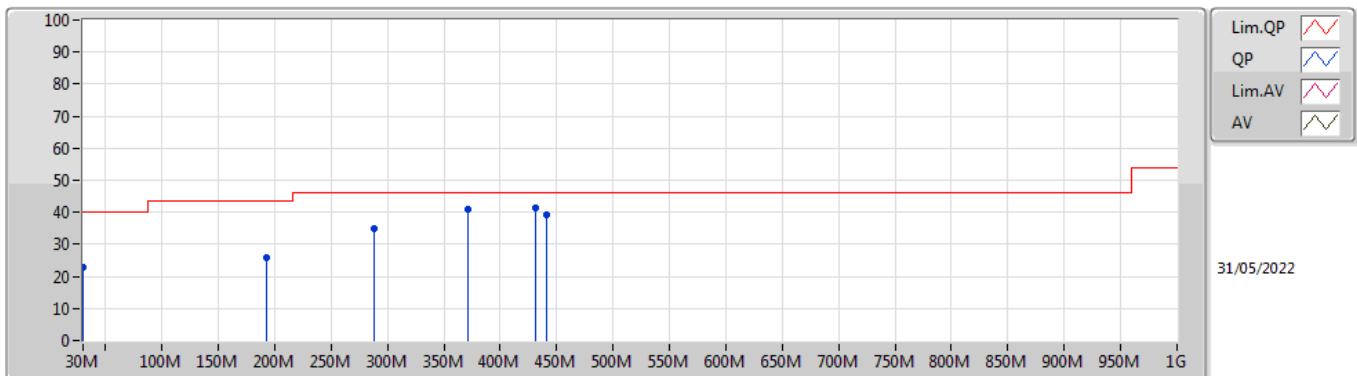
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	30M	24.63	40.00	-15.37	3	Vertical	360	1.00	-
2440MHz	Pass	PK	72.68M	23.72	40.00	-16.28	3	Vertical	360	1.00	-
2440MHz	Pass	PK	117.3M	23.89	43.50	-19.61	3	Vertical	360	1.00	-
2440MHz	Pass	PK	239.52M	27.63	46.00	-18.37	3	Vertical	360	1.00	-
2440MHz	Pass	PK	299.66M	29.51	46.00	-16.49	3	Vertical	360	1.00	-
2440MHz	Pass	PK	431.58M	32.14	46.00	-13.86	3	Vertical	360	1.00	-
2440MHz	Pass	PK	30M	23.04	40.00	-16.96	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	192.96M	25.82	43.50	-17.68	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	288.02M	35.04	46.00	-10.96	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	371.44M	40.89	46.00	-5.11	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	431.58M	41.43	46.00	-4.57	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	441.28M	39.25	46.00	-6.75	3	Horizontal	0	1.00	-

BT-LE(1Mbps)
2440MHz_Test fixture



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	24.63	40.00	-15.37	-12.99	3	Vertical	360	1.00	-	37.62	23.73	0.48	37.20
PK	72.68M	23.72	40.00	-16.28	-24.42	3	Vertical	360	1.00	-	48.14	11.74	0.78	36.94
PK	117.3M	23.89	43.50	-19.61	-18.93	3	Vertical	360	1.00	-	42.82	16.59	1.10	36.62
PK	239.52M	27.63	46.00	-18.37	-18.59	3	Vertical	360	1.00	-	46.22	16.35	1.50	36.44
PK	299.66M	29.51	46.00	-16.49	-16.32	3	Vertical	360	1.00	-	45.83	18.38	1.71	36.41
PK	431.58M	32.14	46.00	-13.86	-12.40	3	Vertical	360	1.00	-	44.54	22.08	2.12	36.60

BT-LE(1Mbps)
2440MHz_Test fixture



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	23.04	40.00	-16.96	-12.99	3	Horizontal	0	1.00	-	36.03	23.73	0.48	37.20
PK	192.96M	25.82	43.50	-17.68	-20.87	3	Horizontal	0	1.00	-	46.69	14.09	1.38	36.34
PK	288.02M	35.04	46.00	-10.96	-16.56	3	Horizontal	0	1.00	-	51.60	18.20	1.67	36.43
PK	371.44M	40.89	46.00	-5.11	-14.55	3	Horizontal	0	1.00	-	55.44	20.03	1.94	36.52
PK	431.58M	41.43	46.00	-4.57	-12.40	3	Horizontal	0	1.00	-	53.83	22.08	2.12	36.60
PK	441.28M	39.25	46.00	-6.75	-12.32	3	Horizontal	0	1.00	-	51.57	22.16	2.15	36.63



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	4.80382G	53.88	54.00	-0.12	3	Horizontal	89	1.06	-

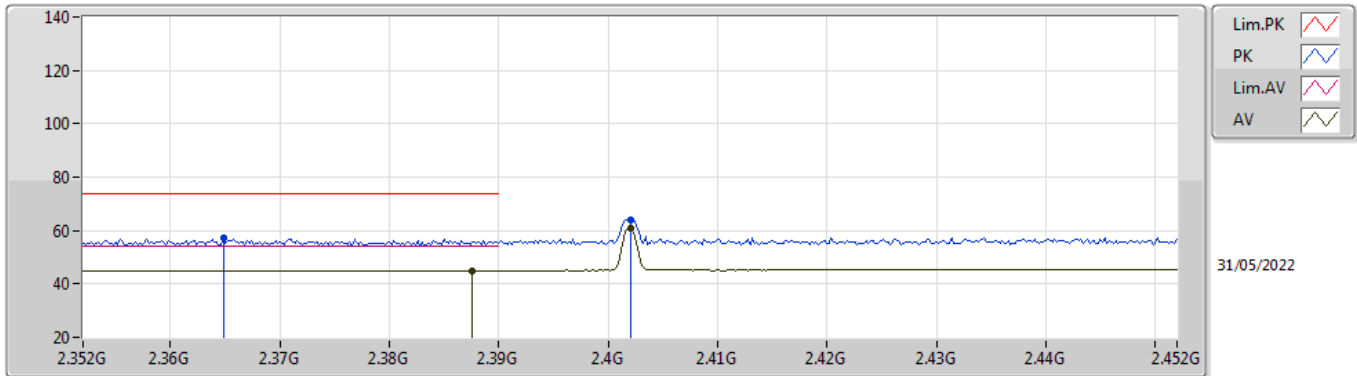


Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3876G	44.98	54.00	-9.02	3	Vertical	115	3.00	-
2402MHz	Pass	AV	2.402G	60.70	Inf	-Inf	3	Vertical	115	3.00	-
2402MHz	Pass	PK	2.3648G	57.45	74.00	-16.55	3	Vertical	115	3.00	-
2402MHz	Pass	PK	2.402G	64.11	Inf	-Inf	3	Vertical	115	3.00	-
2402MHz	Pass	AV	2.3878G	44.97	54.00	-9.03	3	Horizontal	70	1.32	-
2402MHz	Pass	AV	2.402G	62.80	Inf	-Inf	3	Horizontal	70	1.32	-
2402MHz	Pass	PK	2.355G	56.85	74.00	-17.15	3	Horizontal	70	1.32	-
2402MHz	Pass	PK	2.4022G	65.94	Inf	-Inf	3	Horizontal	70	1.32	-
2402MHz	Pass	AV	4.80382G	50.04	54.00	-3.96	3	Vertical	73	1.00	-
2402MHz	Pass	AV	12.00871G	43.37	54.00	-10.63	3	Vertical	95	1.03	-
2402MHz	Pass	PK	4.80348G	56.27	74.00	-17.73	3	Vertical	73	1.00	-
2402MHz	Pass	PK	12.00837G	55.63	74.00	-18.37	3	Vertical	95	1.03	-
2402MHz	Pass	AV	4.80382G	53.88	54.00	-0.12	3	Horizontal	89	1.06	-
2402MHz	Pass	AV	12.01157G	42.97	54.00	-11.03	3	Horizontal	197	1.50	-
2402MHz	Pass	PK	4.80342G	58.75	74.00	-15.25	3	Horizontal	89	1.06	-
2402MHz	Pass	PK	12.00889G	55.66	74.00	-18.34	3	Horizontal	197	1.50	-
2440MHz	Pass	AV	2.3896G	44.96	54.00	-9.04	3	Vertical	243	1.13	-
2440MHz	Pass	AV	2.44G	64.62	Inf	-Inf	3	Vertical	243	1.13	-
2440MHz	Pass	AV	2.4964G	45.89	54.00	-8.11	3	Vertical	243	1.13	-
2440MHz	Pass	PK	2.3636G	57.92	74.00	-16.08	3	Vertical	243	1.13	-
2440MHz	Pass	PK	2.44G	67.18	Inf	-Inf	3	Vertical	243	1.13	-
2440MHz	Pass	PK	2.496G	58.29	74.00	-15.71	3	Vertical	243	1.13	-
2440MHz	Pass	AV	2.3896G	44.97	54.00	-9.03	3	Horizontal	355	1.52	-
2440MHz	Pass	AV	2.44G	66.70	Inf	-Inf	3	Horizontal	355	1.52	-
2440MHz	Pass	AV	2.4992G	45.91	54.00	-8.09	3	Horizontal	355	1.52	-
2440MHz	Pass	PK	2.352G	57.96	74.00	-16.04	3	Horizontal	355	1.52	-
2440MHz	Pass	PK	2.44G	68.95	Inf	-Inf	3	Horizontal	355	1.52	-
2440MHz	Pass	PK	2.4904G	57.69	74.00	-16.31	3	Horizontal	355	1.52	-
2440MHz	Pass	AV	4.87982G	47.18	54.00	-6.82	3	Vertical	355	1.34	-
2440MHz	Pass	AV	7.31924G	45.86	54.00	-8.14	3	Vertical	57	1.01	-
2440MHz	Pass	AV	12.19863G	49.49	54.00	-4.51	3	Vertical	95	1.04	-
2440MHz	Pass	PK	4.8794G	54.03	74.00	-19.97	3	Vertical	355	1.34	-
2440MHz	Pass	PK	7.31908G	55.55	74.00	-18.45	3	Vertical	57	1.01	-
2440MHz	Pass	PK	12.19868G	59.66	74.00	-14.34	3	Vertical	95	1.04	-
2440MHz	Pass	AV	4.87984G	53.71	54.00	-0.29	3	Horizontal	320	1.04	-
2440MHz	Pass	AV	7.31925G	49.35	54.00	-4.65	3	Horizontal	7	1.12	-
2440MHz	Pass	AV	12.19864G	48.73	54.00	-5.27	3	Horizontal	130	1.09	-
2440MHz	Pass	PK	4.87945G	58.70	74.00	-15.30	3	Horizontal	320	1.04	-
2440MHz	Pass	PK	7.31906G	57.48	74.00	-16.52	3	Horizontal	7	1.12	-
2440MHz	Pass	PK	12.1985G	58.96	74.00	-15.04	3	Horizontal	130	1.09	-
2480MHz	Pass	AV	2.48G	60.28	Inf	-Inf	3	Vertical	143	2.61	-
2480MHz	Pass	AV	2.4984G	45.89	54.00	-8.11	3	Vertical	143	2.61	-
2480MHz	Pass	PK	2.4796G	64.04	Inf	-Inf	3	Vertical	143	2.61	-
2480MHz	Pass	PK	2.497G	57.51	74.00	-16.49	3	Vertical	143	2.61	-
2480MHz	Pass	AV	2.48G	64.00	Inf	-Inf	3	Horizontal	358	1.12	-
2480MHz	Pass	AV	2.4994G	45.92	54.00	-8.08	3	Horizontal	358	1.12	-
2480MHz	Pass	PK	2.4802G	67.33	Inf	-Inf	3	Horizontal	358	1.12	-
2480MHz	Pass	PK	2.4978G	58.42	74.00	-15.58	3	Horizontal	358	1.12	-
2480MHz	Pass	AV	4.95982G	49.23	54.00	-4.77	3	Vertical	356	1.00	-
2480MHz	Pass	AV	7.43917G	39.24	54.00	-14.76	3	Vertical	65	1.03	-
2480MHz	Pass	AV	12.40114G	43.43	54.00	-10.57	3	Vertical	246	1.42	-
2480MHz	Pass	PK	4.96044G	55.82	74.00	-18.18	3	Vertical	356	1.00	-
2480MHz	Pass	PK	7.43939G	51.60	74.00	-22.40	3	Vertical	65	1.03	-
2480MHz	Pass	PK	12.39965G	55.88	74.00	-18.12	3	Vertical	246	1.42	-
2480MHz	Pass	AV	4.95981G	52.08	54.00	-1.92	3	Horizontal	330	1.00	-
2480MHz	Pass	AV	7.43916G	40.22	54.00	-13.78	3	Horizontal	13	1.05	-
2480MHz	Pass	AV	12.40078G	43.42	54.00	-10.58	3	Horizontal	217	1.50	-
2480MHz	Pass	PK	4.9593G	57.86	74.00	-16.14	3	Horizontal	330	1.00	-
2480MHz	Pass	PK	7.43954G	52.16	74.00	-21.84	3	Horizontal	13	1.05	-
2480MHz	Pass	PK	12.39846G	55.54	74.00	-18.46	3	Horizontal	217	1.50	-

BT-LE(1Mbps)

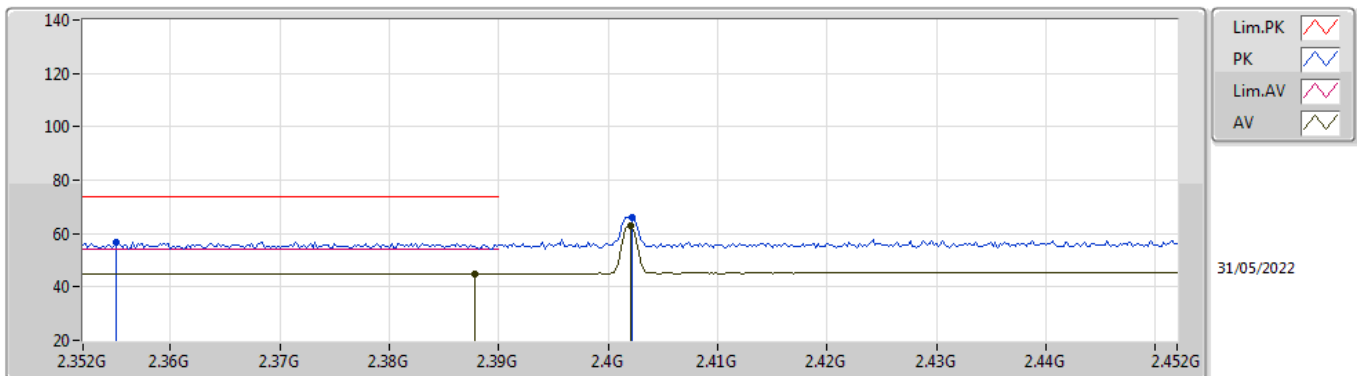
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3876G	44.98	54.00	-9.02	32.00	3	Vertical	115	3.00	-	12.98	27.43	4.57	-
AV	2.402G	60.70	Inf	-Inf	32.08	3	Vertical	115	3.00	-	28.62	27.50	4.58	-
PK	2.3648G	57.45	74.00	-16.55	31.84	3	Vertical	115	3.00	-	25.61	27.29	4.55	-
PK	2.402G	64.11	Inf	-Inf	32.08	3	Vertical	115	3.00	-	32.03	27.50	4.58	-

BT-LE(1Mbps)

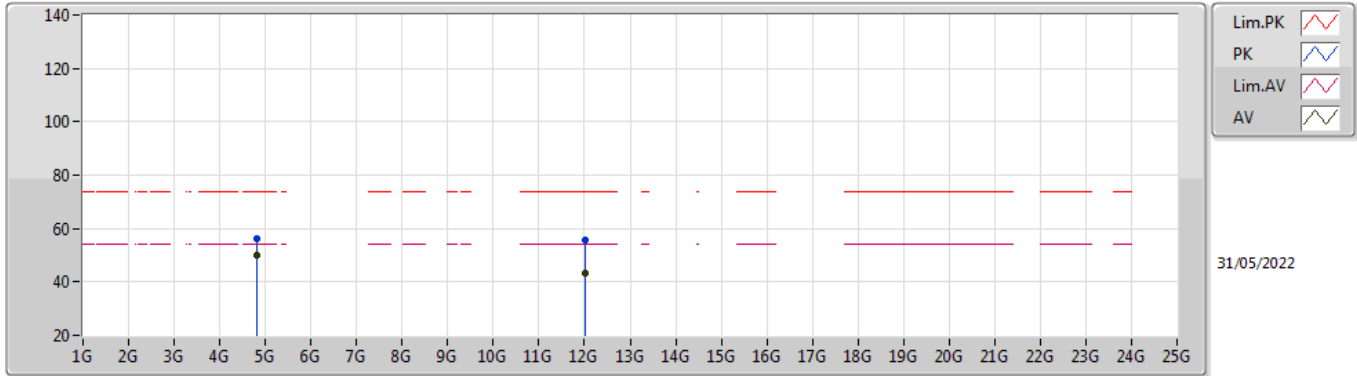
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3878G	44.97	54.00	-9.03	32.00	3	Horizontal	70	1.32	-	12.97	27.43	4.57	-
AV	2.402G	62.80	Inf	-Inf	32.08	3	Horizontal	70	1.32	-	30.72	27.50	4.58	-
PK	2.355G	56.85	74.00	-17.15	31.77	3	Horizontal	70	1.32	-	25.08	27.23	4.54	-
PK	2.4022G	65.94	Inf	-Inf	32.08	3	Horizontal	70	1.32	-	33.86	27.50	4.58	-

BT-LE(1Mbps)

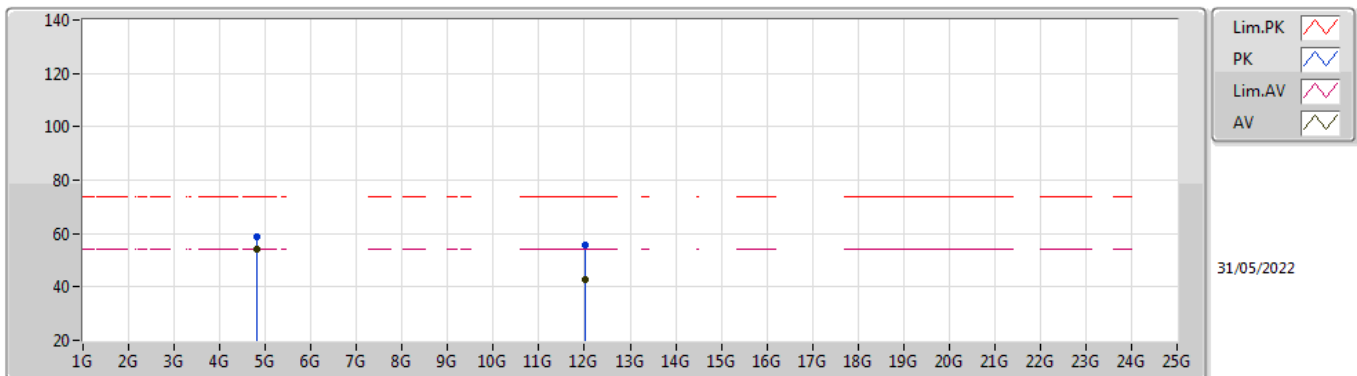
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80382G	50.04	54.00	-3.96	4.17	3	Vertical	73	1.00	-	45.87	32.32	6.66	34.81
AV	12.00871G	43.37	54.00	-10.63	13.52	3	Vertical	95	1.03	-	29.85	38.73	9.53	34.74
PK	4.80348G	56.27	74.00	-17.73	4.17	3	Vertical	73	1.00	-	52.10	32.32	6.66	34.81
PK	12.00837G	55.63	74.00	-18.37	13.52	3	Vertical	95	1.03	-	42.11	38.73	9.53	34.74

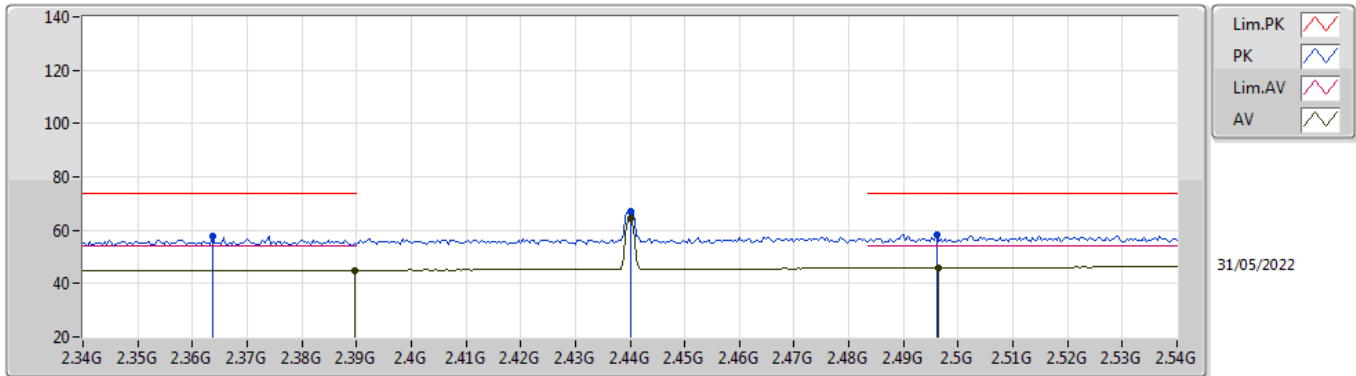
BT-LE(1Mbps)

2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80382G	53.88	54.00	-0.12	4.17	3	Horizontal	89	1.06	-	49.71	32.32	6.66	34.81
AV	12.01157G	42.97	54.00	-11.03	13.53	3	Horizontal	197	1.50	-	29.44	38.73	9.54	34.74
PK	4.80342G	58.75	74.00	-15.25	4.17	3	Horizontal	89	1.06	-	54.58	32.32	6.66	34.81
PK	12.00889G	55.66	74.00	-18.34	13.52	3	Horizontal	197	1.50	-	42.14	38.73	9.53	34.74

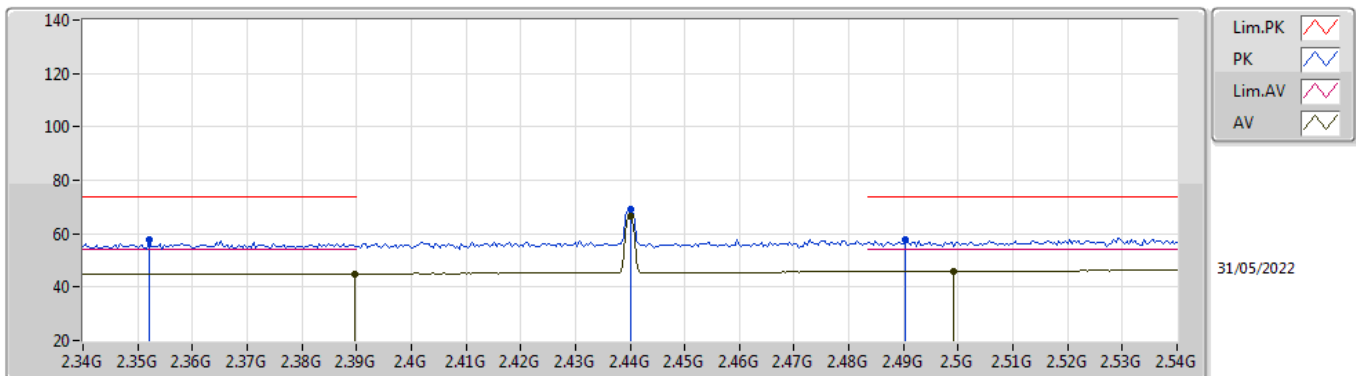
BT-LE(1Mbps)
2440MHz_TX



31/05/2022

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3896G	44.96	54.00	-9.04	32.01	3	Vertical	243	1.13	-	12.95	27.44	4.57	-
AV	2.44G	64.62	Inf	-Inf	32.18	3	Vertical	243	1.13	-	32.44	27.58	4.60	-
AV	2.4964G	45.89	54.00	-8.11	32.50	3	Vertical	243	1.13	-	13.39	27.88	4.62	-
PK	2.3636G	57.92	74.00	-16.08	31.83	3	Vertical	243	1.13	-	26.09	27.28	4.55	-
PK	2.44G	67.18	Inf	-Inf	32.18	3	Vertical	243	1.13	-	35.00	27.58	4.60	-
PK	2.496G	58.29	74.00	-15.71	32.50	3	Vertical	243	1.13	-	25.79	27.88	4.62	-

BT-LE(1Mbps)
2440MHz_TX

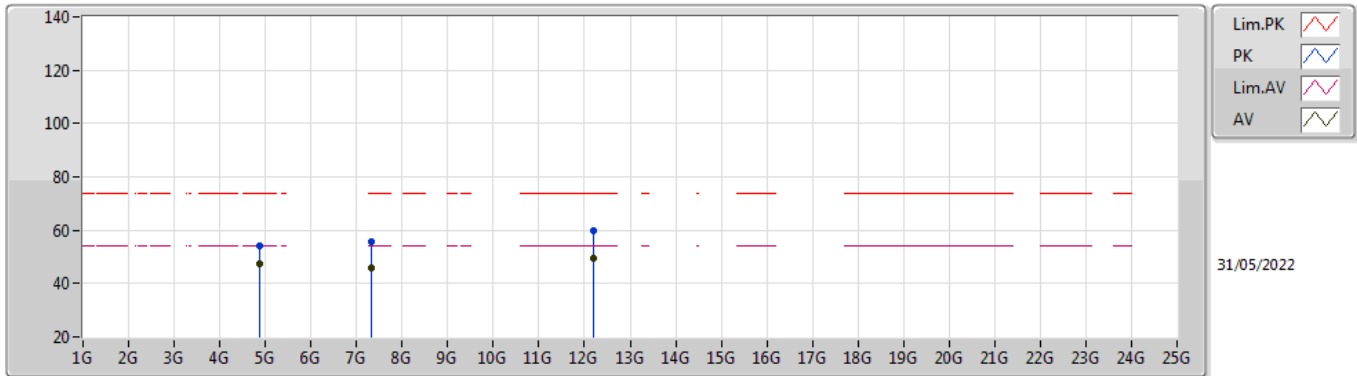


31/05/2022

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3896G	44.97	54.00	-9.03	32.01	3	Horizontal	355	1.52	-	12.96	27.44	4.57	-
AV	2.44G	66.70	Inf	-Inf	32.18	3	Horizontal	355	1.52	-	34.52	27.58	4.60	-
AV	2.4992G	45.91	54.00	-8.09	32.52	3	Horizontal	355	1.52	-	13.39	27.90	4.62	-
PK	2.352G	57.96	74.00	-16.04	31.74	3	Horizontal	355	1.52	-	26.22	27.21	4.53	-
PK	2.44G	68.95	Inf	-Inf	32.18	3	Horizontal	355	1.52	-	36.77	27.58	4.60	-
PK	2.4904G	57.69	74.00	-16.31	32.46	3	Horizontal	355	1.52	-	25.23	27.84	4.62	-

BT-LE(1Mbps)

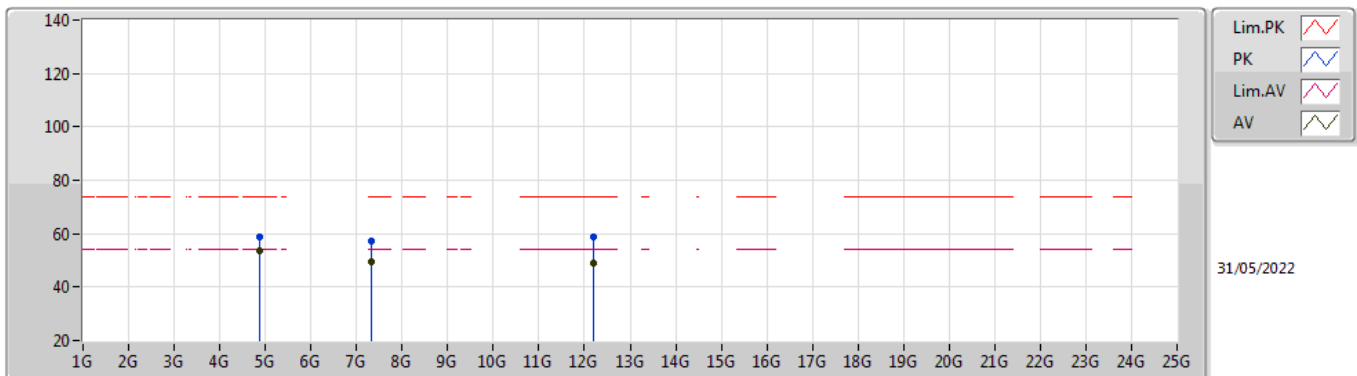
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87982G	47.18	54.00	-6.82	4.65	3	Vertical	355	1.34	-	42.53	32.72	6.72	34.79
AV	7.31924G	45.86	54.00	-8.14	9.73	3	Vertical	57	1.01	-	36.13	36.68	7.87	34.82
AV	12.19863G	49.49	54.00	-4.51	14.10	3	Vertical	95	1.04	-	35.39	39.10	9.63	34.63
PK	4.8794G	54.03	74.00	-19.97	4.65	3	Vertical	355	1.34	-	49.38	32.72	6.72	34.79
PK	7.31908G	55.55	74.00	-18.45	9.74	3	Vertical	57	1.01	-	45.81	36.69	7.87	34.82
PK	12.19868G	59.66	74.00	-14.34	14.10	3	Vertical	95	1.04	-	45.56	39.10	9.63	34.63

BT-LE(1Mbps)

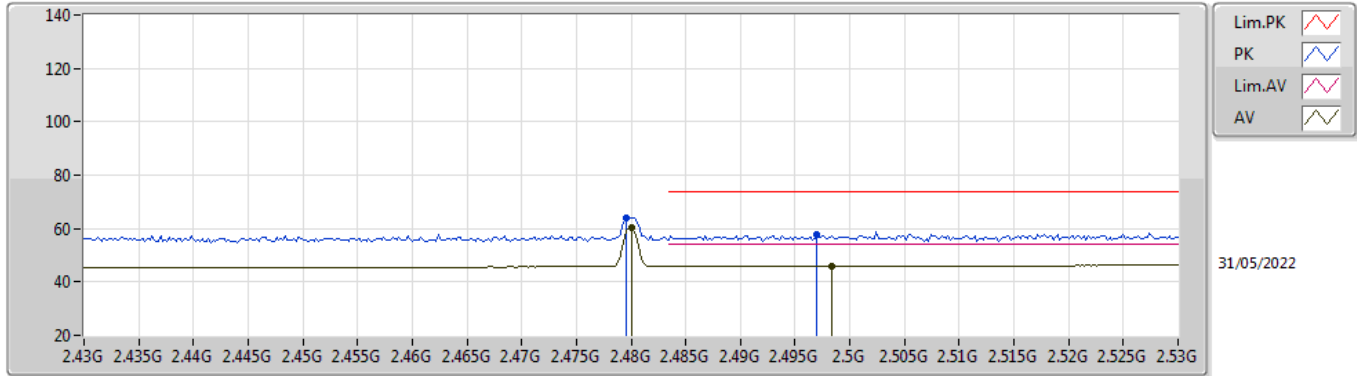
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87984G	53.71	54.00	-0.29	4.65	3	Horizontal	320	1.04	-	49.06	32.72	6.72	34.79
AV	7.31925G	49.35	54.00	-4.65	9.73	3	Horizontal	7	1.12	-	39.62	36.68	7.87	34.82
AV	12.19864G	48.73	54.00	-5.27	14.10	3	Horizontal	130	1.09	-	34.63	39.10	9.63	34.63
PK	4.87945G	58.70	74.00	-15.30	4.65	3	Horizontal	320	1.04	-	54.05	32.72	6.72	34.79
PK	7.31906G	57.48	74.00	-16.52	9.74	3	Horizontal	7	1.12	-	47.74	36.69	7.87	34.82
PK	12.1985G	58.96	74.00	-15.04	14.10	3	Horizontal	130	1.09	-	44.86	39.10	9.63	34.63

BT-LE(1Mbps)

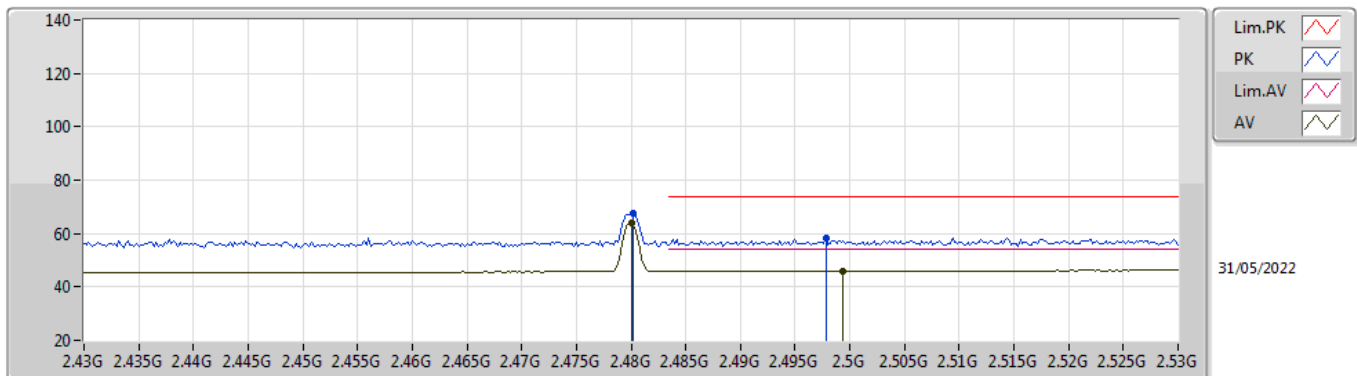
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	60.28	Inf	-Inf	32.39	3	Vertical	143	2.61	-	27.89	27.78	4.61	-
AV	2.4984G	45.89	54.00	-8.11	32.51	3	Vertical	143	2.61	-	13.38	27.89	4.62	-
PK	2.4796G	64.04	Inf	-Inf	32.39	3	Vertical	143	2.61	-	31.65	27.78	4.61	-
PK	2.497G	57.51	74.00	-16.49	32.50	3	Vertical	143	2.61	-	25.01	27.88	4.62	-

BT-LE(1Mbps)

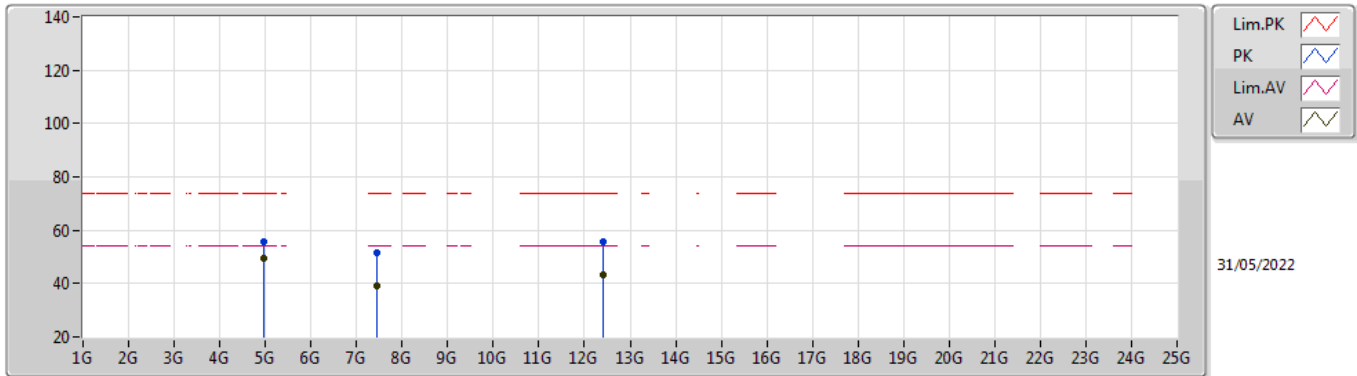
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	64.00	Inf	-Inf	32.39	3	Horizontal	358	1.12	-	31.61	27.78	4.61	-
AV	2.4994G	45.92	54.00	-8.08	32.52	3	Horizontal	358	1.12	-	13.40	27.90	4.62	-
PK	2.4802G	67.33	Inf	-Inf	32.39	3	Horizontal	358	1.12	-	34.94	27.78	4.61	-
PK	2.4978G	58.42	74.00	-15.58	32.51	3	Horizontal	358	1.12	-	25.91	27.89	4.62	-

BT-LE(1Mbps)

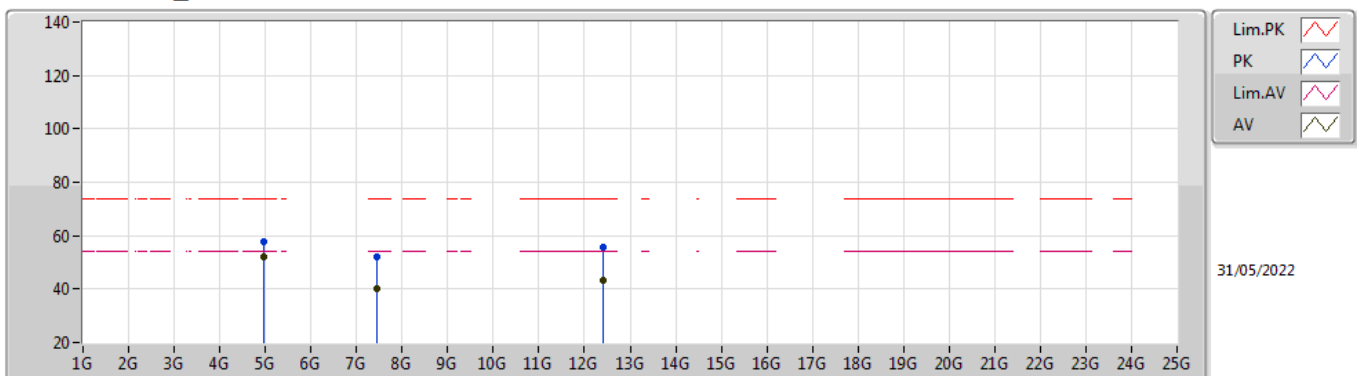
2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.95982G	49.23	54.00	-4.77	5.03	3	Vertical	356	1.00	-	44.20	33.02	6.78	34.77
AV	7.43917G	39.24	54.00	-14.76	9.51	3	Vertical	65	1.03	-	29.73	36.30	8.05	34.84
AV	12.40114G	43.43	54.00	-10.57	14.14	3	Vertical	246	1.42	-	29.29	38.90	9.74	34.50
PK	4.96044G	55.82	74.00	-18.18	5.03	3	Vertical	356	1.00	-	50.79	33.02	6.78	34.77
PK	7.43939G	51.60	74.00	-22.40	9.51	3	Vertical	65	1.03	-	42.09	36.30	8.05	34.84
PK	12.39965G	55.88	74.00	-18.12	14.14	3	Vertical	246	1.42	-	41.74	38.90	9.74	34.50

BT-LE(1Mbps)

2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.95981G	52.08	54.00	-1.92	5.03	3	Horizontal	330	1.00	-	47.05	33.02	6.78	34.77
AV	7.43916G	40.22	54.00	-13.78	9.51	3	Horizontal	13	1.05	-	30.71	36.30	8.05	34.84
AV	12.40078G	43.42	54.00	-10.58	14.14	3	Horizontal	217	1.50	-	29.28	38.90	9.74	34.50
PK	4.9593G	57.86	74.00	-16.14	5.03	3	Horizontal	330	1.00	-	52.83	33.02	6.78	34.77
PK	7.43954G	52.16	74.00	-21.84	9.52	3	Horizontal	13	1.05	-	42.64	36.30	8.06	34.84
PK	12.39846G	55.54	74.00	-18.46	14.14	3	Horizontal	217	1.50	-	41.40	38.90	9.74	34.50